The NATIONAL GEOGRAPHIC MAGAZINE

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Published by the National Geographic Society,
Hubbard Memorial Hall,
Washington, D. C.

$2.50 a Year REPRINT 25 Cents a Number

Entered at the Post-Office in Washington, D. C., as Second-Class Mail Matter

THE NATIONAL GEOGRAPHIC MAGAZINE

AN ILLUSTRATED MONTHLY, published by the NATIONAL GEOGRAPHIC SOCIETY, at Washington, D. C. All editorial communications should be addressed to the Editor of the NATIONAL GEOGRAPHIC MAGAZINE, Hubbard Memorial Hall, Washington, D. C. Business communications should be addressed to the National Geographic Society, Hubbard Memorial Hall, Washington, D. C.

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Zalalekaya
Olentui
Kakui
Burtuiski
Shirinski
Merloni Kangiuku Alin
Rasb. gor Para
Chuturi Kurgaka
Tonkulgieso
Chitinsk
R. Kuiuitun

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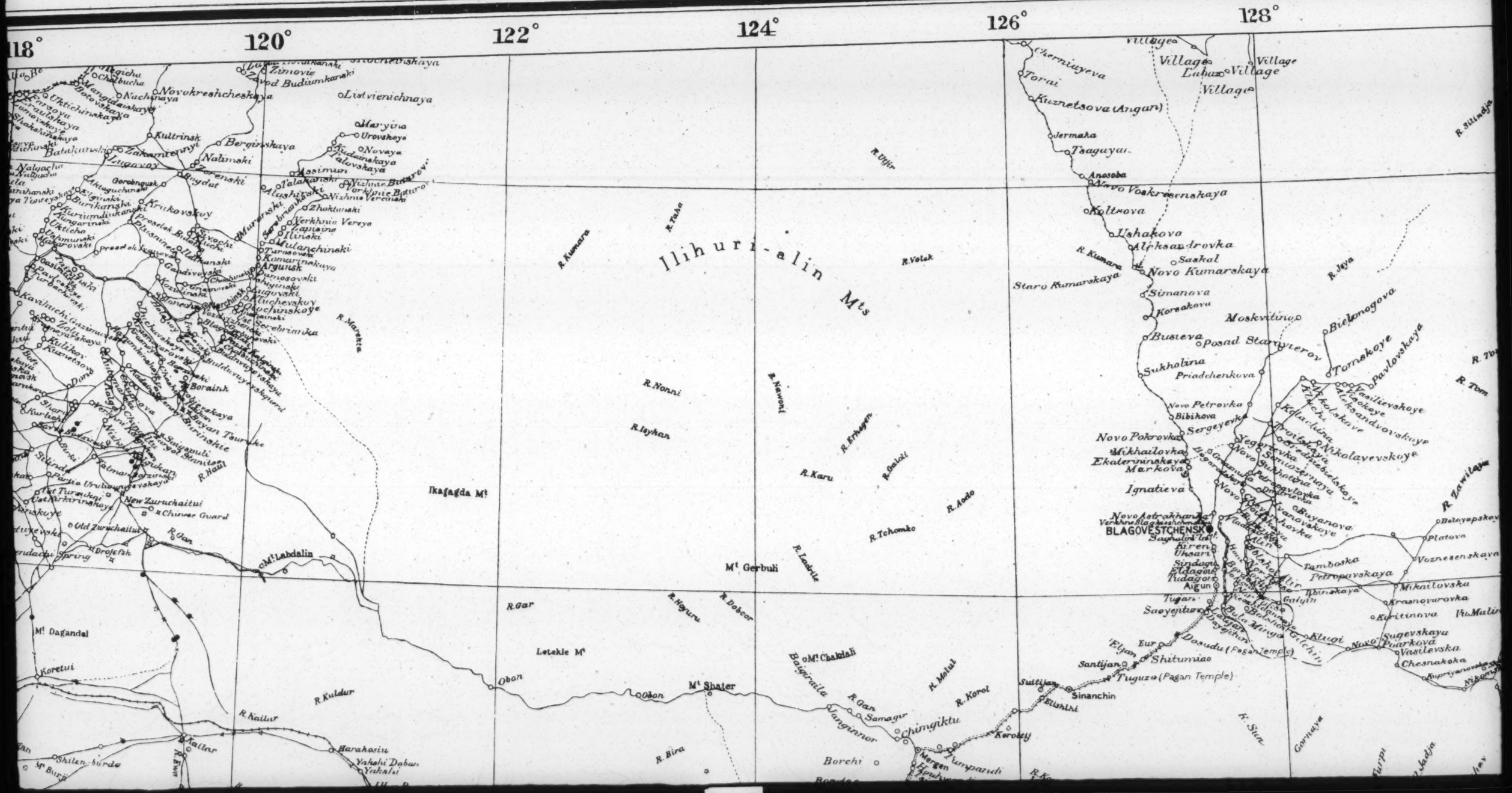
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Mt Labdalin
Mt Dagandal
Mt Shater
Mt Chakdali
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R. Volek
R. Nonni
R. Newori
R. Erhegan
R. Karu
R. Tchomko
R. Ladrile
R. Gar
R. Kuldur
R. Kailar
R. Bira
R. Korol
R. Sun
R. Jeya
R. Tom
R. Zawilaya
Staro Kumarskaya
Novo Kumarskaya
BLAGOVESTCHENSK
Novo Voskresenskaya
Novo Pokrovka
Ignatieva
Markova
Ekaterinskaya
Mikhailovka
Bibikova
Sergeyevka
Sukholina
Busieva
Posad Staryyerov
Moskvitino
Simanova
Korsakova
Ushakova
Koltnova
Kuznetsova (Angun)
Jermaka
Tsaguyan
Anasoba
Chernuyeva
Torai
Saoyejitsu
Shitumiao
Sinanchin
Tuguzo (Pagan Temple)
Dosudu (Pagan Temple)
Aigun
Tuyan
Sutlijan
Santijan
Elsan
Borchi
Merzen
Chimgiktu
Samagir
Baigiraila
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Korotey
Tumpandi
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Koretui
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Krukovskuy
Burikanshi
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Kuznetsova
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Kurbei
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Borki
Yalmanka
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Tat Kerkirinskoye
Droiefsk
Spring
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Preselok Yuzhni
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Kazurinski
Nerchinsk
Tsurukaitui
Chirokan
Ulan Tsurukte
Burinskie
Hailu
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Novaya
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Assimun
Talakanski
Alushinski
Zhaktuevski
Verkhnia Vereya
Ilinski
Tulanchinski
Komarinskaya
Sretenski
Chichurski
Kuchevskoye
Serebriankа
Buldurskaya
Ust Borzia
Ust Urulungui
Ust Kerkirinskoye
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Ust Chichurski
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...ent to the National Geographic Magazine, March, 1904.

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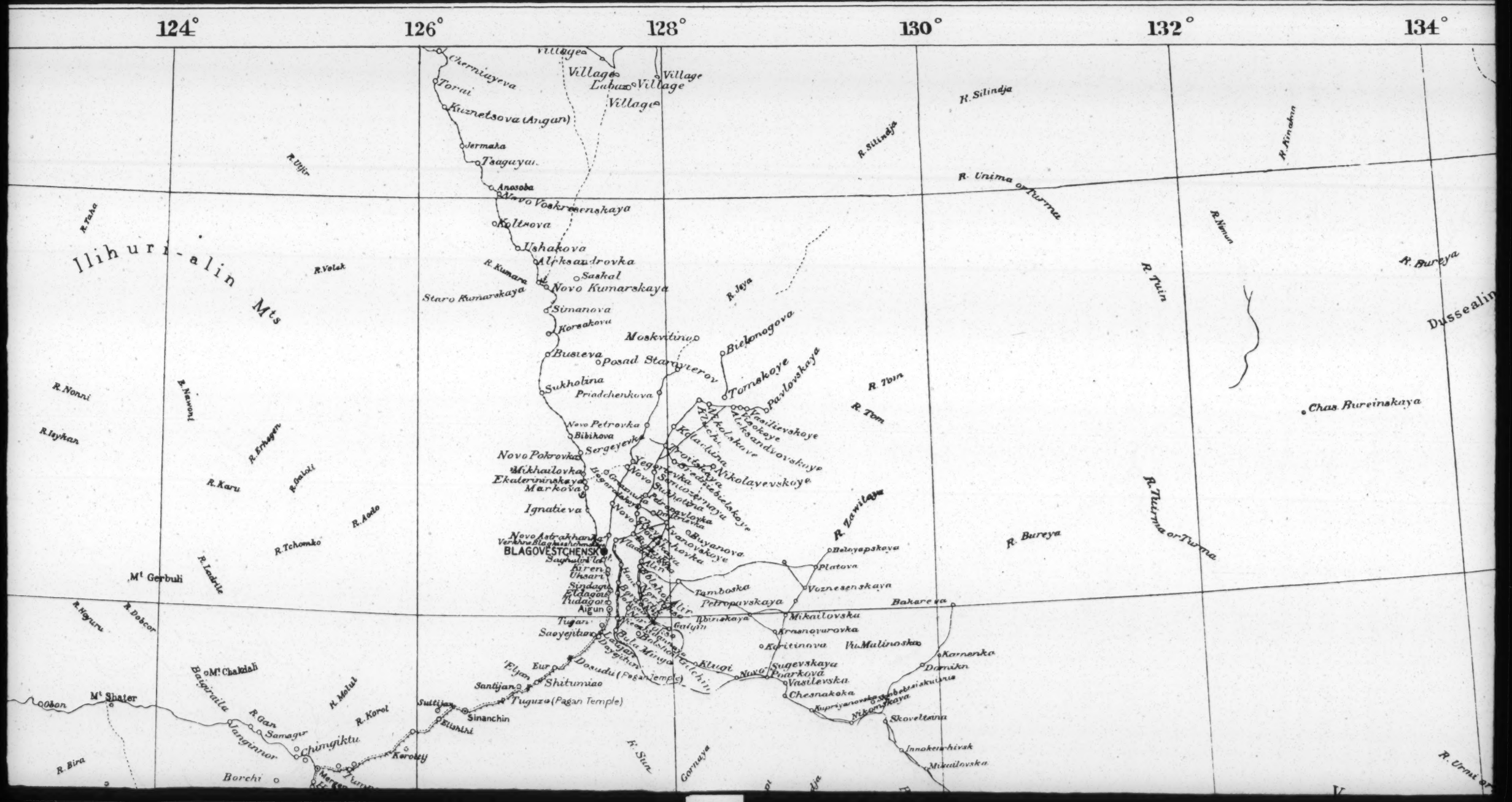
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Ilihuri-alin Mts
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R. Volsk
R. Kumara
R. Joya
R. Silindja
R. Unima or Turmea
R. Kinakan
R. Nonni
R. Nawori
R. Erhegen
R. Karu
R. Bolali
R. Aodo
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R. Leidzle
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R. Burèya
R. Tom
R. Turima or Turma
R. Zawitaya
R. Hoguru
R. Dobcor
R. Bira
R. Gan
R. Molul
R. Korol
R. Sira
Dusselin
Chas. Bureinskaya
Cherniayeva
Torai
Kuznetsova (Angun)
Jermaka
Tsaguyai
Anasoba
Voskresenskaya
Koltsova
Ushakova
Alpksandrovka
Sasakal
Novo Kumarskaya
Staro Kumarskaya
Simanova
Korsakova
Moskvitino
Busieva
Posad Staroyterov
Sukholina
Priadchenkova
Novo Petrovka
Bibikova
Sergeyevka
Novo Pokrovka
Mikhailovka
Ekaterininskaya
Markova
Ignatieva
Novo Astrakhanka
Verkhne Blagoveshchensk
BLAGOVESTCHENSK
Saghulen
Kiren
Uksari
Sindagi
Aigun
Tudagou
Tugan
Saoyejitan
Dayagihan
Bula Minya
Galyin
Dosudu (Pagan temple)
Shitumiao
Tuguza (Pagan Temple)
Sinanchin
Sultijan
Elishki
Kerotiy
Chimgiktu
Samagir
Vanginnor
Borchi
Mt Shater
Mt Chakdali
Mt Gerbuli
Obon
Bolgiraila
Bielonogova
Tomskoye
Pavlovskaya
Vasilievskoye
Aleksandrovskoye
Nikolayevskoye
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Yegorovka
Novo Stukalkina
Petrovka
Ivanovskoye
Buyanova
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Platova
Voznesenskaya
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Magazine, March, 1904.

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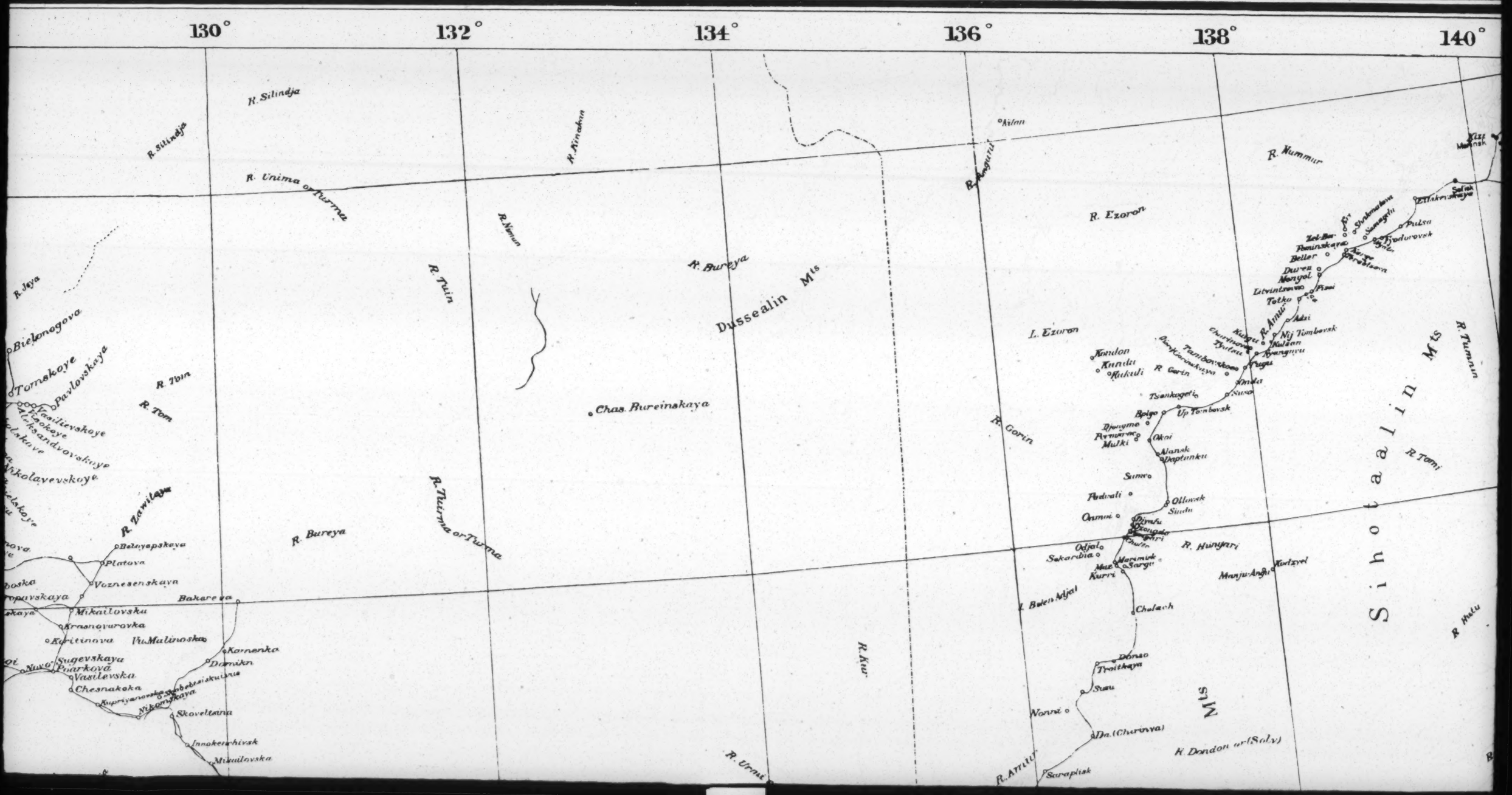

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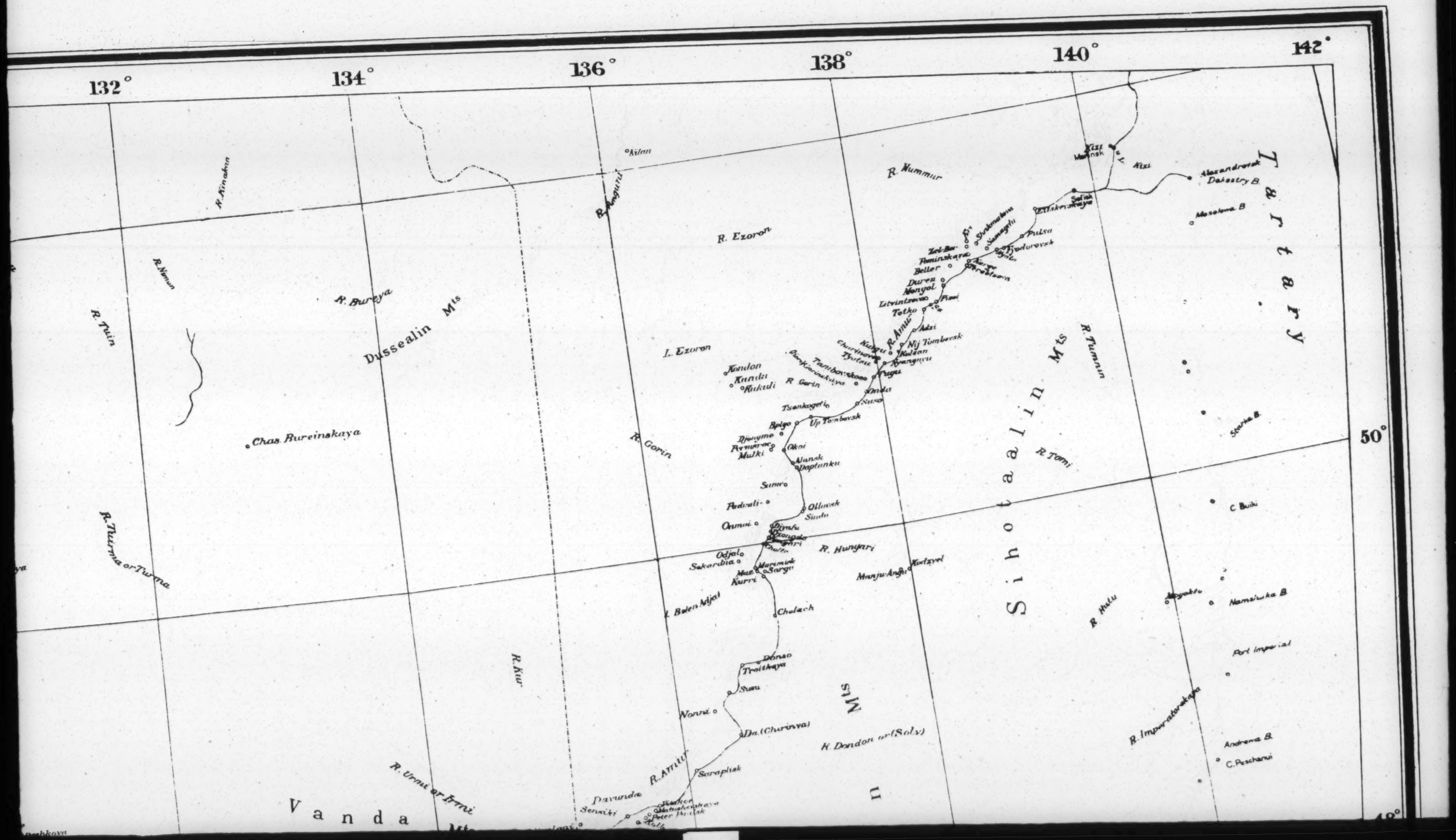

132°
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Tartary
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Dussealin Mts
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L. Ezoron
R. Gorin
R. Bureya
R. Tumnin
R. Tomi
R. Hungari
R. Amur
R. Kur
R. Tuin
R. Tuirma or Turma
R. Urmi or Irmi
R. Dondon or (Soly)
R. Imperatorskaya
Chas. Bureinskaya
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Dekastry B.
Mosolowa B.
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Fyodorovsk
Beller
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Litvintsova
Totko
Adzi
Nij Tombovsk
Kulsan
Tambovskoe
Tugu
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Suso
Tsenkogeti
Up Tombovsk
Bolgo
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Daptanku
Samo
Ollovsk
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Onmoi
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Sekardia
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Sargu
Chelach
Donso
Troitkaya
Susu
Nonni
Da. (Chirinya)
Saraplisk
Davunda
Sensiki
Kodzyel
Manju-Angu
Starka B.
C. Buiki
Namshaka B.
Port Imperial
Andrewa B.
C. Peschanui

50°

48°

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Derwinskaya
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Wiritski Ord
Darassunsk
Sour Spring
Salzinskaya
Kusochinskaya
Kluchevskaya
Aginsk
Iliyskaya
Dulburginskaya
Durulhaisk
Ust Ilik
Kurgatai
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Duchansk
R. Ulzga
R. Imalka
L. Tarak
Tchindansk
Ara Bulak
Aduncheion Mts
Koltubat
R. Agdaya
R. Onon
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Ulustui
Kurakan
Dolgokich
Birki
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Ust Alaiskaya
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Letekle Mts
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R. Kailar
Harakosiu
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Ulan Burgasi
Merdukei Daban
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Irekhit
Pagan Temple
Jediri Dabai
Hurga
Ban-obe
Shubar
Barin
Barin Dabai
Ayan
Samiktan
Haratchoi
R. Iwgol
R. Yali
L. Kaika
Mt Yakshan
Mt Chabdali
R. Togin
R. Tcher-usu
R. Efu
Mt Saihan
Ebole-hubola Mts
Datsitu Mts
R. Hatuihan
R. Temuin
Tchegnan or Tcher
Mt Bilan-u
Chagalii
Hunka
R. Kaika
Nula
Olun
Kol.
Ir. Kuizenelezu
Kol. Kumtuksume
Ir. Kyurmyurtyunkorol
Dzyurkinkorol
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R. Shive
R. Ilan
Chiefs Stores
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Humtologai
Artolak Mts
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R. Dalai Nor
R. Chegon
R. Igegue
R. Shunotuyun
R. Dulingon
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Kol. Arguintsagunkuduk
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Kol. Horusudal
Kol. Bosun
Kol. Dzunbulak
Kol. Baronbulak
Kol. Ganstolyoitburuikduk
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Kol. Tsayandarbuga
Kol. Amonsiusunkuduk
Kol. Nojuduiak
Kol. Kuhsutaibul
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Ir. Kedu
Ir. Erdenitologoi
Kol. Kubtu
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Hailastai
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Kerlon Kangaku Alin
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R. Kuirultun
Kuirultun
Pirinongu
Mt Chaur-huchu
Mt Tabun-tologai
Mt Dagandel
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Shilen-burdo
Mt Burii
Gandjir
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Mt Gerbuli

Mt Lahdalin

Mt Chakdali

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Mt Shive

Mt Yakshan

Mt Chashali

Mt Saihan

Letekle Mt

Muktol Mt

Artolak Mts

Ebole-habola Mts

Datsitu Mts

Kerketu Mt

Uyunhoidongi Mt

R. Kumara

R. Nonni

R. Neiwol

R. Erhgen

R. Karu

R. Galoli

R. Tchomko

R. Ladzile

R. Aodo

R. Gar

R. Nguru

R. Dobcor

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R. Yati

R. Togin

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R. Huyuru

R. Tunbi

R. Korol

R. Molui

R. Utjir

R. Jeya

R. Tom

R. Sun

R. Lulaha

R. Chem or Chian Ho

R. Kirpi (Keerfen Ho)

R. Ouia (Ouin Ho)

R. Zawitaya

R. Mun

R. Ichun

R. Tuli

L. Kuka

L. Kuyur

L. Tunwozi (or Munhotsi)

Jermaka

Tsaguyai

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Novo Voskresenskaya

Koltsova

Ushakova

Alexandrovka

Saskal

Novo Kumarskaya

Staro Kumarskaya

Simanova

Korsakovo

Moskvitino

Busieva

Posad Staryieroy

Sukholina

Priadchenkova

Bielomogova

Tomskoye

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Vasilievskoye

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Dosudu (Pagan Temple)

Shitumiao

Tuguza (Pagan Temple)

Sinanchin

Elishihi

Korotey

Merken

Hunhwandi

Nantaizalan

Tumparidi

Borchi

Bogoto

Iseri

Nacatijan

Taisti

Kamnihajan

Bordotijan

Yangui

Hoenan

Lahajan

Laoemiao

Elgite

Shihitsipatsi

Santsujatui

Matujagin

Tahay

Bayan

Ershitun

TSITSIKAR

Lanchiatun

Tuhaotsaz

Mutai

Halatsi

Temudehei

Siaodwruchuma

Dadowruchuma

Daordian

Uadjin

Haramil

Haratohoi

Huhuru

Sarniktan

Shubar

Ayan

Barin Daban

Barin

Ilan-obo

Humtologai

Chinese Stores

Chagalii

Old Zuruchaitui

New Zuruchaitui

Chinese Guard

Dagandel

Shilen-burdo

Kailar

Harakosiu

Yakshi Daban

Yakalsi

Ulun Burgasi

Merdukei Daban

Mendu

Irekhte

Pagan Temple

Jedin Daban

Harga

Obon

Samagir

Changiktu

Yangjinnor

Baigiraila

Ilanobo

Zakamenskaya

Nalimski

Kultinsk

Bergizskaya

Novokreshcheskaya

Nachinaya

Listvienichnaya

Maryina

Urovskoye

Novaya

Kudaiskaya

Talovskaya

Assinun

Nizhnie Butarovi

Nizhnie Vereiski

Zhoktaiski

Verkhnie Vereya

Lapsiina

Ilinski

Mulanchinski

Tarasovka

Komarinskaya

Argunsk

Borainsk

Buldurskaya

Buldurskoye

Bayan Tsuruhe

Shiroki

Kalmar

Ergikan

Hailar

Zuruchaitui

Lugovaya

Ilyudat

Gorobnoyuk

Aktuguchinski

Buriiharski

Kurtumdukanski

Krukovskoy

Prosdek Budutui

Prosdek Ilinskoye

Ilinski

Gandiveski

Shiroki

Shilinski

Mogzonski

Mogzon

Mogzonskoye

Mogzonskaya

Mogzonskoye

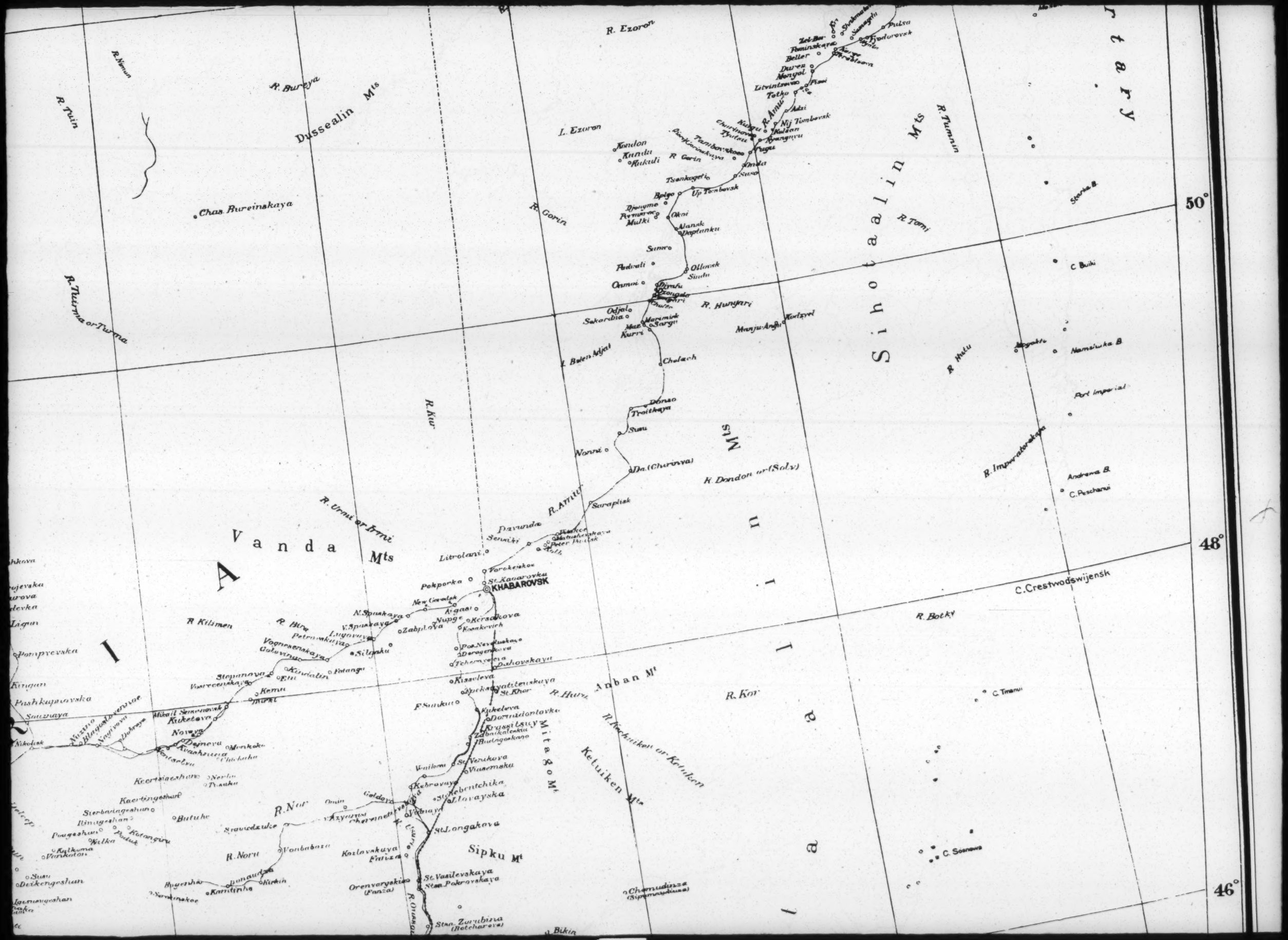
Mogzonskaya

Mogzonskoye

Mogzonskaya

Jermaka
Tsaguyan
Anosoba
Novo Voskresenskaya
Koltnova
Ushakova
Alpksandrovka
Saskal
Novo Kumarskaya
Staro Kumarskaya
Simanova
Koreakova
Moskvitino
Busieva
Posad Staryerov
Sukholina
Priadchenkova
Novo Petrovka
Bibikova
Sergeyevka
Novo Pokrovka
Mikhailovka
Ekaterininskaya
Markova
Ignatieva
Novo Astrakhanka
Verkhne Blagoveshchenka
BLAGOVESTCHENSK
Sagaulovka
Kiren
Uksari
Sindagi
Eldagon
Tudagon
Aigun
Tugari
Saoyejitun
Dosudu (Pagan Temple)
Shitumiao
Tuguzo (Pagan Temple)
Sinanchin
Elushki
Korolevy
Bielonogova
Tornskoye
Pavlovskaya
Vasilievskoye
Aleksandrovskiye
Nikolaevskoye
Bureyanova
Ivanovskoye
Tamboska
Petropavskaya
Ibinskaya
Galyin
Bula Mintya
Klugi
Sugevskaya
Markova
Vasilevska
Chesnakoka
Skovoltsina
Innokentievka
Mikailovska
Kuratkina
Pashkova
Storojevska
Bashurova
Iladdevka
Ligun
Pompyevska
Kirgun
Pushkuprovska
Smiznaya
Ekaterino Nikolsk
Nuzina
Vagilova
Dobraya
Belyayevskoye
Platova
Voznesenskaya
Mikailovsku
Krasnoyarovka
Kuritinova
Malinovska
Karnenka
Damikn
Stepanovka
Vvedenskaya
Kemu
Mikail Semenovsk
Kukeleva
Novaya
Dejnova
Kvashnina
Morskoe
Chukuha
Butuhe
Kaertingeshan
Sterbatingeshan
Ilinageshan
Pugeshan
Kilka
Kalkuma
Vinkaton
Magnugeshan
Kelinalingesha
Detkengeshan
Pungugeshan
Igemangeshan
Kamishka
Bogenka
Kirkin
Orenvaryskiso (Fanza)
St. Vasilevskaya
Stan. Pokrovskaya
Stravedzuke
Vonbabuza
Kazlavskuya
Fraiza
Chas. Bureinskaya
Dusselin Mts
L. Ezoron
R. Gorin
Litrolani
Davunda
Seniuti
Pokporka
New Cavalsk
N. Spusskaya
V. Spusskaya
Zabplova
Nupge
Kerasekova
Kosakevich
Pos. Nevelskoe
Deragenkova
Tchernyeva
Dzhovskaya
Kisseleva
Apiskopatiteuskaya
St. Khor
F. Sunkuri
Dormidontovka
Krugelsuy
Zabaikalesku
Budagoskano
St. Verukova
Vinsemska
Kebrovaya
St. Kobentchika
Slavayska
St. Longakova
Vaitomi
Vinaya
Sipku Mt
Anban Mt
Ketuiken Mts
Mita Ko Mt
Vanda Mts
Khingan Mts
R. Amur
R. Sungari
R. Unima or Turma
R. Tuin
R. Tom
R. Bureya
R. Turima or Turma
R. Zawilaya
R. Ouia (Ouii Ho) R. Ui
R. Kupi (Keerfen Ho) R. Furpi
R. Suli or Djuruk
R. Chem or Chian Ho
R. Sun
R. Ichun
R. Kilimen
R. Hutu
R. Nuru
R. Urmi or Irmi
R. Kumara
R. Jeya
R. Sitinadja
R. Nenun
R. Korol
R. Lulaha
R. Namatu
R. Adodo
L. Tunwozi (or Munholazi)
Uyunhoidongi Mt
XUM

R. Sillinej
R. Unima
Turma
R. Nonun
R. Bureya
R. Tuin
Dyssealin Mts
R. Ezoron
R. Nummur
R. Ieya
Bielonogova
Tornskoye
Pavlovskaya
R. Tom
Chas. Bureinskaya
L. Ezoron
Kondon
Kunidi
Kukuli
R. Gorin
Tsenkogelio
Bolgo
Up Tambovsk
Djonyme
Permarovo
Mulki
Okoi
Nanak
Daptunku
Sunro
Pudivali
Ollovsk
Simdu
Onmui
Dimki
Odjalo
Sakardbia
Kurri
Marimsk
Sargu
R. Hungari
Manju-Angi
Kerbyel
L. Bolen Mjal
Cholach
Dónao
Troithaya
Suzu
Nonni
Da. (Churinva)
K. Dondon or (Solv)
R. Amur
Saraplsk
Davunda
Litrolani
Pokporka
St. Kasarovka
KHABAROVSK
New Cavalsk
N. Spiaskaya
V. Spiaskaya
Aigasi
Nupge
Kerakova
Zabplova
Kosakevich
Silipku
Dahovskaya
Kisseleva
Apekayatiteuskaya
St. Khon
F. Sunkuri
Dormidontovka
Krassitsuy
Zdvinskaleskai
Bulgoskano
Vnilomi
St. Venikova
Vinaemska
Kebrovaya
St. Kebentchika
Lavayska
St. Longakova
Kozlavskuya
Fatiza
St. Vasilevskaya
Stan. Pokrovskaya
Orenvaryskico
(Fanza)
Sipku Mt
Mita 80 Mt
Keluiken Mts
R. Kur
R. Botky
Anban Mt
Sihotaalin Mts
R. Tomi
R. Hungari
R. Keluiken or Kelukem
C. Sosunov
Chamudinza
R. Zawitaya
Bajayepskaya
Platova
Voznesenskaya
Bakareva
Petropavskaya
Mikailovska
Krasnoyarovka
Karitinova
Vis. Malinoska
Karnenka
Damkin
Sugevskaya
Parkova
Vasilevska
Chesnakoka
Nikonovskaya
Skoveltzina
Innokentivhivsk
Mikailovska
Kusatkina
Sigivara
Pashkova
Storujevska
Bashurova
Haddevka
Ligun
Pompyevska
Kirigan
Pushkupanovska
Souzuaya
Ekaterina Nikolask
Muzino
Blagoslovennoe
Nagiwara
Dobraya
Mikail Semenovsk
Kuketova
Novaya
Dejneva
Kvashnuga
Monkako
Chuhaku
Kaertingeshure
Nerlu
Tiraku
Butuhe
Sterbaingeshun
Ibingeshan
Pongeshun
Podlut
Kotangiru
Welka
Kulkoma
Vunkaton
Magugeshun
Kelindagesha
Suau
Deikengeshun
Funugeshuro
Igemungeshan
Imdanka
Dolzingeshun
R. Tutt
R. Urmi or Ilmi
R. Nori
Vonbabuza
Kamtinka
Kirkin
Sarvinskoe
Gaidara
Omun
Stravedzuko
Charmineva
R. Kilimen
R. Hira
Petrovskaya
Vogneaenskaya
Goluvanuo
Stepanova
Vnerecenskaya
Etti
Kisialin
Fatanga
Kemu
Murki
R. Suli or Djurik
R. Ouia (Ouit Ho) R. Ui
R. Ladja
R. Saher
R. Amur
R. Urmi or Ilmi
R. Botky
R. Kur
R. Hungari
Anban Mt
Mita 80 Mt
Keluiken Mts
R. Keluiken or Kelukem
C. Sosunov
Chamudinza
Manchuria
Ussuri
Khingan Mts
L. Tunwozi (or Munholazi)
R. Amur
R. Tutt
R. Zawitaya
R. Bureya
R. Turima or Turma
R. Tom
R. Tuin
R. Ieya
R. Saher
R. Ladja
R. Amur
R. Suli or Djurik
R. Ouia (Ouit Ho) R. Ui
R. Urmi or Ilmi
R. Nori
R. Kilimen
R. Hira
R. Botky
R. Kur
R. Hungari
R. Keluiken or Kelukem
Anban Mt
Mita 80 Mt
Keluiken Mts
Sipku Mt
Vanda Mts
Dyssealin Mts
Sihotaalin Mts
Manchuria
Ussuri
Khingan Mts
C. Sosunov
Chamudinza
L. Tunwozi (or Munholazi)
R. Amur
R. Tutt
R. Zawitaya
R. Bureya
R. Turima or Turma
R. Tom
R. Tuin
R. Ieya
R. Saher
R. Ladja
R. Amur
R. Suli or Djurik
R. Ouia (Ouit Ho) R. Ui
R. Urmi or Ilmi
R. Nori
R. Kilimen
R. Hira
R. Botky
R. Kur
R. Hungari
R. Keluiken or Kelukem
Anban Mt
Mita 80 Mt
Keluiken Mts
Sipku Mt
Vanda Mts
Dyssealin Mts
Sihotaalin Mts
Manchuria
Ussuri
Khingan Mts
C. Sosunov
Chamudinza
L. Tunwozi (or Munholazi)
XUM



R. Ezoron
L. Ezoron
R. Nimun
R. Bureya
Dussealin Mts
R. Tuin
Chas. Bureinskaya
R. Gorin
Sihotaalin Mts
R. Tumnin
R. Tomi
R. Hungari
R. Hutu
R. Imperatorskaya
R. Kur
R. Urmi or Irmi
Vanda Mts
R. Amur
R. Dondon or (Solv)
Mts
KHABAROVSK
R. Kilimen
R. Bira
R. Nor
R. Noru
R. Kor
R. Botky
Anban Mt
Mitago Mt
Ketuiken Mts
Sipku Mt
C. Crestwodswijensk
C. Buiki
C. Timanui
C. Sosnowa
C. Peschanui
Andrewa B.
Port Imperial
Namshuka B.
Starka B.
50°
48°
46°

48°
46°
44°
R. Kuiruitun
Pirinongu
Mt Chur-huchu
Mt Tabun-tologai
Merloni Kanguktu Alin
Rasb. gor Para
Chuhun Kargaka
Tonkulgiebo
Chuktirak
Kuiruilun
Hailastai
Dalanhara Mts
Kol. Ilankuduk
Kol. Tsagantalogoi
Kol. Arguinkuduk
Kol. Kadatu
Kol. Uitukuduk
Kol. Arguintsagankuduk
Kol. Borctoreen
Kol. Borosudal
Mt. Muta-inulag-alin
Kol. Gosun
Kol. Dzunbulak
Kol. Ganstolyoirburcikuduk
Kol. Arvinkundubul
Kol. Tsayanderboga
Kol. Amonziusunkuduk
Kol. Kojudulak
Kol. Bayankailasun
Kol. Kretingozi
Mt Holiogama
Kol. Arakushu
Kum. Kabukure
Kum. Ganjursame
Kol. Baindaseikuduk
Kol. Sugurinkuduk
Kol. Saikankuduk
Kol. Arobuluk
Kol. Bilyutyui
Kol. Hodyunetologoi
Kol. Belekem
Kol. Neryunsume
Kol. Ilanubusute
Kol. Talyunkobu
Kol. Dzdukakermukkud
Kol. Bombotu
Kum. Baogtusume
Kol. Kabergukuduk
Kol. Tabunkuduk
Kol. Dalaikuduk
Yur. Tsebeleya
Kol. Bultun
Kol. Gelgyuk Kuduk
Kol. Arohuduk
Kol. Sholonkoduca
R. Tsekeelen
R. Dzuhagt
R. Shadwa
R. Shonoihyon
R. Dulingon
R. Uzungon
R. Kretingozi
R. Bulgulungol
R. Inchyl
R. Shibe
Ir. Kedu
Ir. Erdenitologoi
Kol. Kubtu
Kol. Kuhuzutaibul
Ir. Djordjikobur
R. Chagegon
R. Igegue
Ir. Kulusutei
Ir. Kuizenelezu
Kol. Surkutubulak
Kol. Tezibulak
Kol. Kophelabulak
Kum. Ganjursame
Kol.
Kum. Kumtuksume
Ir. Kyurmyurtyurkorol
Dzyurkinkorol
Kol. Naryunkuduk
Ir. Koyurshidar
Geryolungail
Kum. Thurilsumu
Kol. Yur
Kum. Bayankoshu
Ir. Kjoliyun
Ir. Dzyunkorol
Ir. Nudom
Ir. Tsaganobu
Kum. Kantabimsume
Ir. Burliilancda
Ir. Korta
Ir. Kudjurtyungol
Kum. Ertsyugensume
Ir. Kulugai
Ir. Kuduluk
Ir. Torinnion
Kum. Vangoinsume
Kol. Chulonkuduk
Ir. Putukirbir
Kol. Bayanbulak
Tabinsume
Byunsume
Kol.
Kol. Dushitukud
Ir. Kazanmoritu
Ir. Kabirgan
Ir. Inik. t
Kol.
Kol.
R. Karauru
R. Kelu
Rus. Tsugunsodorga
Rus. Drabgorda
Maihan
Gurvintuidesume
Hunhe
R. Kelka
Nula
Olun
Kol.
Chagalri
Gandjir
Mt Baintsagan
Mt Burii
Shilen-burdo
R. Kerlun
L. Dalai Nor
Obeda Nor
R. Ilmen
R. Shive
Mt Shive
Chinese Stores
Muktol Mts
R. Kuldur
R. Kailar
Kailar
Harakosiu
Yakshi Daban
Yakshi
Ulun Burgasi
Merdukei Daban
Mendu
R. Onur
Harga
Irekhit
Pagan Temple
Jedin Daban
Ban-obo
Shubar
Barim
Barim Daban
Ayan
Humtologai
Artolak Mts
Samktan
Haratol
R. Yali
L. Kyika
Mt Yakshan
Mt Chashali
R. Togin
R. Tchor-usu
R. Efu
Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
R. Temuin
Mt Bilan-u
Mt Husuitai
Mt Chabchilak-Hada
R. Kuilor
Mt Kuilek
R. Ardata
R. Urungchur
Lashaparkuduk
Kashatu
Kara-kara
Tchoguan or Tchor
R. Tolo
Moku
Namgikak
Mt Yaloalin
Kol. Chdadunkuduk
L. Chahan
R. Goteh
Batorgi
Chjantsuitukuduk
Mt Telealin
Kl. Kuinbulak
Dalaikuk
Tsuryasume
Boldyunsu
Norumo
Nuru
Ikentalindzyaka
Kol.
Kol.
XUM

Koretur
Obon
Mt Shater
R. Kuldur
R. Kailar
Kailar
Harakosiu
Yakshi Daban
Yakshi
Ulun Burgasi
Merdukei Daban
Mendu
Irekhte
Pagan Temple
Harga
Jedir Daban
R. Ulur
R. Kwa
R. Bira
R. Boni
Mt Shive
R. Shive
R. Pan
Chinese Stores
Muktol Mt
Humtologai
Artolak Mts
Nan-obo
Shubar
Barin
Barin Daban
Ayan
Samktan
R. Arun
L. Kuku
Haratohei
Huhuru
R. Iongol
R. Yati
Chagalii
Mt Yakshan
Mt Chahali
R. Togin
R. Tohar-usu
Efu
Olun
Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
Hutaihan
R. Nur
Chuktei
R. Temsin
Tchoguan or Tchor
Mt Bilan-u
Mt Husuitai
Mt Chabchilak-Hada
R. Kuilor
R. Ardala
Mt Kuilek
Lashaparkuduk
R. Urungchur
R. Nonni
Kara-kursu-tai
Kashatu
L. Talnkun
R. Tolo
Moku
Namgikak
Mt Yaloalin
Kol. Chdadunkuduk
L. Killen
L. Chahan
R. Gotek
Batorgi
Chjantsuitukuduk
Mt Telealin
Al. Kuisubulak
Dalaikuk
Tsuryasume
Boldyunsume
Norumo
Nuru
Ikentalindzyaka
Vostaail
Hjilinail
Kuanut
Bekepenkume
Mt Chakilali
Baginailu
Tangginnor
R. Gan
Samagir
R. Matul
R. Korol
Chimgiktu
Borchi
Bogoto
Iseri
Charhari
Nacatijan
Taisti
Kamnihajan
R. Nomin
R. Nan
Bordotijan
Yangut
Hoenan
R. Namotu
R. Buktan
Lahajan
Kaoemiao
Elgite
Nimnien
Ishihtsijatsi
Santsujatui
Daurdian
Haramil
Matsujagin
Bayan
Irshitun
TSITSIKAR
R. Huyuru
Lanchiatun
L. Huyur
Tuhaotsaz
Wutai
L. Untohon
L. Chahan
Lamatsen
Tsitsihwandi
Wentohun
Mantsuijan
Dorai
Ujuwun
Boboli
Beimyaotsu
Beitala
R. Tai
Tarhajan
Hoperdiun
Hulbsahni
Difuntsa
Gulu
Igek Kur (Lake)
Turulunj
Sinja
Shadzyagai
Shugadai
Podzyadzya
Taku
Siltyao
Tsagansume
Mosin
Tsitsihwandi
Bodingkan
Bodine
Mantcke
Juniga
Omon
Ishagantene
Shirigdien
Kabarga (Shendjen)
Takwangchan
Shirgin
Intaiatei
Shunchan
Nongenchen
Kungyuentsz
Antaisien
Chinken
Bilimi
Siengialaien
Kilap
Petanhintsu
Papanshan
Chaohovpi
Shiangentsz
Taipinshan
Liuvanmiao
Jaguituho
Bayunsutsu
Ichanla
Saoiezuta
Hulunchan
Tsida'azuitsu
Myaoerdu
Pinchu
Chiako
HARBIN
Balaktai
Sibaertalgeshan
Kuapgoigeshan
Baligeshan
Lesugeshan
Dolingerbaushan
Pulikeza
Shuangchen
Lalin
Lalin Chon
Tulite
Tinkeshan
Sakuri
Fupalin
Ichanlin
Fikta
Mengukehun
Ichanlan
Kaliketsza
Sushuidantsza
Dapo
Sun Kotin
Djangkuandun
Sanyanshan
Putaitamuri (Bayandory)
Anikuan
Siungkuang
Sungari
Yangtsun
Kuanchengtsz
Changchun
Kirin
Kirin
Kirin

Mt Chakiali
Bayiraila
R. Molul
R. Gan
Samagir
Tangiznor
R. Korol
Chimgiktu
Borchi
Boguto
Iseri
Mergen
Tumparidi
Nantaisedia
Charhuri
Ilacatijan
Taisti
Kamnihajan
R. Nonin
R. Nor
Bordotijan
Yangut
Hoenan
R. Namotu
Lahajan
Elgite
Kerketu Mt
R. Huyuru
R. Tunbei
Tuhaotsaz
Wutai
L. Chehan
Lamatsen
Antatsien
Chinken
Beitala
Tarhajan
Kitap
Pitanhtsu
Pipaoshan
Papanshan
Chaoyuan
Chaohevpi
Shinngentsz
Linvanmiao
Taipinshan
Taguitsho
Bayanhoshu
Hulunchan
Tazida'azuitsza
Myaoerlin
Pinchu
Hyaodentsze
Kaogia
Ayha
Chehukai
Sibaertalgeshan
Kuapgoigeshan
Baligeshan
Lesugeshan
Nyeonakaihan
Dolingeerbaushan
Pulikeza
Mosin
Shuankii
Bodingexan
Bodine
Lungashan
Pandlin
Omon
Majaimanka
Shingdien
Kungyuentsz
Kabarga (Shendjin)
Takwangchan
Shunchan
Wongenchen
Igek Kur (Lake)
Sinja
Tsuhudingeshan
Chiaka
HARBIN
Maolike
R. Ichun
R. Kulan
R. Huhun or Kuan
R. Sungari
R. Nonni
R. Lalin
Lalin Chen
Tulitie
Tukeshan
Nanyuan
Kentsuli
Fungalin
Tehantin
Sun Kotin
Djankuandun
Suryanshun
Fuklamun (Bayandory)
Baikal
Mongolchun
Kalaketsui
Sushuidantszui
Dapo
R. Mutun
R. Alichuk or Aye R.
Lyundyutsza
Fikta
F. Shazuan
F. Mudyoa
Kuanlyanzuhu
F. Shanmaihe
Sakuri
Tsitsihar
Mergen
Tuguzo (Pagan Temple)
Santijan
Shitumiao
Suttijan
Sinanchin
Elishihi
R. Korolen
R. Sun
Uyunhoidongi Mt
R. Lulaha
R. Chem or Chian Ho
R. Kupi (Keerfen Ho) R. Furpi
R. Namotu
R. Kuli
R. Sahev
R. Amur
Gornaya
Sugevskaya
Pnarkova
Vasilevska
Chesnakoka
Kupriyanovka
Nikolayevska
Skovoltsina
Innokentivhivsk
Mikailovska
Kuvatkina
Sigivova
Pashkova
Storujevska
Bashurova
Iladdevka
Ingun
Pompyevska
R. Ouia (Ouin Ho) R. Ui
R. Suli or Djevuk
Kingan
Pashkupuvska
Suuyaya
Ekaterina Nikolsk
Muzina
Blagoslovennoe
Vasilyeva
Dobraya
Mikail Semenovsk
Kuketova
Novaya
Dejneva
Kvashenina
Morskoe
Chukuha
Keertsiaeshan
Norkin
Tsiaoku
Keertingeshan
R. Lelesp
R. Uiuri or Ituin
Sterbningeshan
Ilinageshan
Pongeshan
Kutka
Poduk
Kutmgou
Butuhe
Kulkoma
Vankaton
Magayeshan
Kelindingeshan
Suan
Deikengeshan
Fungugeshan
Igemungeshan
Dolzingeshan
Imaka
Almdanka
Hoxin
Gedinxin
Fetupo
Syaguke
Guiza
Kungul
Tunyuno
Vada
Sil
Soandagoshan
Adimnuna
R. Butan or Naren
Vankaro
Kalafel
Baoxin
Suchotinho
Ershan
Suisinchen
Siansunshan
Machenhan
Shinkuanu
Gaifa
Lintsingeiza
Trugento
Shanayui
Ordermuhin
Sangup
Hingantsien
Pugan
Hayanmu
Vermunhe
Nayvenshan
Sidingsanhaikaizui
Sipdak
Shanmaitszi
Chehu
Baanshan
Purfun
Selefidek
Hailben
R. Hailar
R. Argun
R. Mutun
R. Nonni
R. Ichun
R. Tun
R. Chali
R. Butan or Naren
R. Wukon or Vukori Ho
R. Kule
R. Sikulin
R. Murren or Mulen
Feiter Ho
Kentei alin Mts
Kanda Mts
Vanda Mts
R. Urmi or Irmi
R. Kilimen
R. Hira
R. Doman
R. Onnogon
R. Nori
R. Norii
Litrolani
Pokporka
KHABA
New Gorelok
Argasi
N. Spusskaya
V. Spusskaya
Nupge
Zabpkova
Kerasakova
Kasakevich
Vognevenskaya
Galuvinuo
Petrovskuiva
Lugovaya
Silmaku
Stepanovka
Kirvialin
Petangi
Voevcenskaya
Etli
Kemu
Murki
Pos. Nevelskaya
Deregerskova
Tchernyeleva
Kisseleva
Apiskayatitz
F. Sunkuri
Kukeleva
Dormidontovka
Krassil
Zabaikalesk
Buringaska
Venikovi
St. Nerukova
Vinsemaku
Kebrovuya
St. Kebentchika
Ulavayska
Vodnaya
St. Longakova
Sipku Mt
Orenvaryskie (Fanza)
St. Vasilevskaya
Stan. Pokrovskaya
Stan. Zurubina (Notcharova)
Fanza
Ny. Nikolskaya
Ny. Mikailovskaya
Lopatinskoi Stanok
Stan. Kritoberejnbiustanok
Knyazevskaya
Stan. Kauza
Stan. Grafskaya
Krashoyarskaya
Stan. Llanskaya
St. Murievlef Amurskui
Stan. V. Nikolskaya
Stan. V. Mikailovskaya
St. Prokaska
Stan. Bisse
F. Okoo
F. Civinzuin
Markova
Pogt. Stn.
F. Litkovskago
Orussouri
T. S. Yermeneva
Pogt. St. N° 3
Ispenku
Nijne Romanovskaya
F. Chupigor
F. Situka
Shmakovka
Bratkova
F. Famugi
Suingin
F. Djiniang
Noto Kouza
A. Kobirin
F. Palbo
F. Chingniza
T. S. Yakovleva
In. Suantsa
T. S. Lazweva
Sunulogi
Gaivoron
Spaskaya
Prokofevka
Dmitrovka
Charnigovka
Nobinskaya
Troitskaya
Lebedu Barracashan
Astrakanskaya
Navashitche
Platopo Alekswandrovskaya
L. Kharike (Sin Hai Ho)
Twintwa
Jaogi
Longmaya
Limushanlan
L. Mat. Khanke
Jarkova
Mo
Duvitsa
Lukunya
Vostochnaya
Lyubaya
Varpuskaya
Kuvulan
Veltsynaya
Nuvo Jakkun
Jastkova
Morentiritche
Fuzneschensk
Graveduke
Bogorsha
Kamitinka
Lonaudaka
Kirkin
Vonbabuzu
Karlovskuya
Finiza
Longmaya
Ninouta
Shuka
Langkar
Linchuya
F. Modutai
F. Kamandi
Ir. Atamanovska
Pa Malodu
Shuangi
Yuanyuan
Kalkatsui
Sushuidantszui
Dapo
Sun Kotin
Djankuandun
Suryanshun
Fuklamun (Bayandory)
Baikal
Mongolchun
Wongenchen
Shunchan
Takwangchan
Kabarga (Shendjin)
Shingdien
Kungyuentsz
Majaimanka
Omon
Pandlin
Lungashan
Bodine
Bodingexan
Shuankii
Mosin
Tsuhudingeshan
Nyeonakaihan
Dolingeerbaushan
Pulikeza
Lesugeshan
Baligeshan
Kuapgoigeshan
Sibaertalgeshan
Chiaka
HARBIN
Maolike
Sinja
Igek Kur (Lake)
Beitala
Tarhajan
Kitap
Antatsien
Chinken
Lamatsen
L. Chehan
Tuhaotsaz
Wutai
L. Huyur
Kerketu Mt
Elgite
Lahajan
Bordotijan
Yangut
Hoenan
Ilacatijan
Taisti
Kamnihajan
Charhuri
Iseri
Borchi
Boguto
Mergen
Tumparidi
Nantaisedia
Chimgiktu
Samagir
Tangiznor
R. Gan
R. Korol
R. Molul
Bayiraila
Mt Chakiali
Sinanchin
Elishihi
Suttijan
Santijan
Shitumiao
Tuguzo (Pagan Temple)
Elyan
Eur
Dosudu (Pagan Temple)
Klugi
Nuvo
Sugevskaya
Pnarkova
Vasilevska
Chesnakoka
Kupriyanovka
Nikolayevska
Skovoltsina
Innokentivhivsk
Mikailovska
Kuvatkina
Sigivova
Pashkova
Storujevska
Bashurova
Iladdevka
Ingun
Pompyevska
Kingan
Pashkupuvska
Suuyaya
Ekaterina Nikolsk
Muzina
Blagoslovennoe
Vasilyeva
Dobraya
Mikail Semenovsk
Kuketova
Novaya
Dejneva
Kvashenina
Morskoe
Chukuha
Keertsiaeshan
Norkin
Tsiaoku
Keertingeshan
Sterbningeshan
Ilinageshan
Pongeshan
Kutka
Poduk
Kutmgou
Butuhe
Kulkoma
Vankaton
Magayeshan
Kelindingeshan
Suan
Deikengeshan
Fungugeshan
Igemungeshan
Dolzingeshan
Imaka
Almdanka
Hoxin
Gedinxin
Fetupo
Syaguke
Guiza
Kungul
Tunyuno
Vada
Sil
Soandagoshan
Adimnuna
Vankaro
Kalafel
Baoxin
Suchotinho
Ershan
Suisinchen
Siansunshan
Machenhan
Shinkuanu
Gaifa
Lintsingeiza
Trugento
Shanayui
Ordermuhin
Sangup
Hingantsien
Pugan
Hayanmu
Vermunhe
Nayvenshan
Sidingsanhaikaizui
Sipdak
Shanmaitszi
Chehu
Baanshan
Purfun
Selefidek
Hailben
Pikta
F. Shazuan
F. Mudyoa
Kuanlyanzuhu
F. Shanmaihe

Sugevskaya
Vasilevska
Chesnakoka
Nikonskaya
Skoveltsina
Innokentevhivsk
Mikailovska
Kusatkina
Sigivara
Pashkova
Storojevska
Bushurova
Laddevka
Lugun
Pompyevska
Kingun
Pashkupievska
Sauzuaya
Mikail Semenovsk
Kuketova
Nowya
Dejneva
Kwakhaura
Chuchaka
Merikaka
Kaertsiaeshuro
Norku
Tsauku
Kaertingeshuro
Sterbaingeshuro
Butuke
Pougeshuro
Kotangiru
Kulkuma
Varkaton
Magnigeshuro
Susu
Deikengeshuro
Fungugeshuro
Dolinigeshuro
Imaka
Fetupo
Syaguke
Guiza
Vada
Sil
Adimauna
Kalafel
Bnoutin
Ershaco
Siuraunshan
Machashan
Shinkuuna
Golika
Lintsiguiaza
Sangun
Ordemuhin
Shanayu
Heyannu
Tsingsankaitazu
Nimuinha
Chekn
Baasinaun
Furlun
Halben
Lanuanpuo
Salinha
Kuaidyanzuhu
Chungulatazu
F. Shanmaihe
F. Mudyoso
Kunshilinza
Sinkalu
Lindupo
F. Madutsa
F. Tuitango
F. Kaimandi
Shuka
NINOUTA
Ikramanazu
Ninshike
Platopo Alekseudrovskaya
Nobinskaya
Trotskaya
Lebeda Baranovsha
Astrakanskaya
Pavashitche
In. Atuminovsku
Jarkova
F. Likunya
Lyuhaya
Varinskaya
Pl. Malodinskoe
Spaskaya
Prokofievka
Dmitrovka
Chernigovka
Morozovitchi
Veltsuynaya
Novo Ivanka
Ivatkovo
L. Kharike
(Sin Hai Ho)
Twintuo
Jaogi
Limshanlau
L. Mal. Khanka
Pogt. St. No 3
Pogt. St. No 4
Vangmayo
Shmakovka
Suingina
Isperku
Nijne Romanovskaya
Braliova
F. Famugi
F. Diniaiga
Noto Kouza
R. Kobitin
F. Palbo
T. S. Yakovleva
In. Suanesa
T. S. Lazureva
Sundogi
F. Tudogoi
F. Tyu Kondogiie
F. Chinguiza
F. Chupigoi
F. Situka
Oprichnik B.
C. Vujniu
Tarney B.
Plastun B.
C. Sosnowa
C. Belkina
R. Botky
R. Kor
R. Iman
R. Sunda Vak
R. Khutuikan or Kruikan
R. Amur
R. Sungari
R. Ussuri
R. Urmi or Ormi
R. Kilimen
R. Hira
R. Ouia (Ouii Ho) R. Ui
R. Suli or Djevnik
R. Sahev
R. Ladja
R. Furpi
R. Tum
R. Nori
R. Norui
R. Doman
R. Bikin
R. Sikulin
R. Murren or Mulen
R. Kelle
R. Mikon or Vukuri Ho
R. Bulan or Naren
R. Amgun
R. Tuidzitberi
R. Hutu
R. Anban
R. Kelkuiken
R. Dolgi
R. Ungari or Ruli
Vanda Mts
Kanda Mts
Kentei alin Mts
Anban Mt
Sipku Mt
Mitaromi
Davunda
Litrolani
Serniki
Pokporka
St. Kanarovka
KHABAROVSK
New Cimolsk
N. Spusk aya
V. Spusk aya
Nuppge
Zabijlova
Kersakova
Kosakevich
Poe Nevelsk aya
Deragenkova
Tcheremshova
Dubovskaya
Kisseleva
Apuka
St. Khor
F. Sunkuti
Kukeleva
Dormidontovka
Krasnoiarsky
Zdvinskaya
Budugeskaya
Venikovi
St. Verukaya
Vinogradovka
Kabrovaya
St. Kebentchika
Llovayska
Vodnaya
St. Longakova
Orenvaryskiee (Fanza)
St. Vasilevskaya
Sta. Pokrovskaya
Sta. Zurubina (Botcharova)
Fanza
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Sta. Kritoberejnbiustanok
Knyazevskaya
Sta. Grafskaya
Krasnoyarskaya
Sta. Llanskaya
Ima. Kauza
Ima. Vuku
St. Muravlef Amurskui
Sta. V. Nikolskaya
Sta. V. Mikailovskaya
St. Prokaska
Sta. Bisse
F. Okoo
F. Chinzuiu
Markova
Pogt. St. No 2
F. Litkovskago
Orussouri
Troitkaya
Suru
Nonni
Da. (Churowa)
Saraplisk
Peter Pristk
Kosh
Glabuchevskaya
Troitk
R. Dondon or (Solv)
Chamudinza (Sipemuptuza)
Mts
Ussuri
Shotta
Sihota
Alin
Ussuri
Kentei
Kanda
Vanda
Anban
Sipku
Mitaromi
Kelkuiken
Sungari
Amgun
Amur
Feiter Ho
Kelkuiken
Ussuri
Sungari
Amur
Amgun
Kentei alin Mts
Kanda Mts
Vanda Mts
Anban Mt
Sipku Mt
Mitaromi
Kelkuiken Mts
Sihota Alin
Ussuri
Sungari
Amur
Amgun
Kentei alin Mts
Kanda Mts
Vanda Mts
Anban Mt
Sipku Mt
Mitaromi
Kelkuiken Mts
Sihota Alin
XUM

Vanda Mts
R. Urmi or Irmi
R. Amuli
Davinda
Seniki
Litrolani
Pokporka
St. Kasarovka
KHABAROVSK
New Cavalsk
N. Spuskaya
V. Spuskaya
Aigasi
Nupge
Kerasakova
Kreakevich
Zabpilova
Silinku
Lugovaya
Petrovskaya
Vognenskaya
Golovnuo
R. Hira
R. Kilimen
Stepanovka
Vosvecenskaya
Kemu
Mikail Semenovsk
Kuketova
Novaya
Dolnaya
Nazino
Blagoslavennoe
Nagivova
Pashkova
Storojevska
Bashurova
Ildadevka
Ligun
Pompyevska
Kingan
Pushkupovska
Snuzhaya
Kaertingeshan
Sterbaringeshan
Ilinugeshan
Pangeshan
Kilka
Kalkoma
Varkaton
Deikengeshan
Bituhe
R. Nuf
R. Noru
Vonbabnzu
Kamilinka
Kirkin
Nerakinskoe
Fanza
Orenvaryskiee (Fanza)
Kozlovskuya Fanza
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Stsa. Kritoberejnbiustanok
Knyajevskaya
Stsa. Grafskaya
Imn. Kauza
Imn. Vaku
Krasnoyarskaya
St. Muravlef Amurskui
Stsa. Llanskaya
F. Okoo
Stsa. V. Nikolskaya
Stsa. V. Mikailovskaya
St. Prokaska
Stsa. Bisse
F. Chinzuin
Markova
Pogt. Stan.
Limushanlan
L. Mal. Khanka
Turistuo
Pogt. St. N° 3
Pogt. St. N° 4
Platopo Alekxandrovskaya
L. Khanka (Sin Hai Ho)
Nobinskaya
Troitskaya
Lebeda Barangasha
Astrakanskaya
Spaskaya
Prokofevka
Dmitrovka
Chernigovka
Vaitsuyaya
Vaitsuyaya
Nevo Jakuza
Justkova
Morustiritche
Vanguay
Vangmaya
Shmakovka
Nijne Romanovskaya
Isperdu
Suingin
Famugi
Djiniuza
Noto Kouza
Kobitin
F. Palbo
F. Chingviza
F. Tudogoi
F. Tyu Kanlogiii
T. S. Yakovleva
T. S. Lazureva
Ir. Suanesa
Simulogi
Kebrovaya
Ilovayska
St. Longakova
St. Vasilevskaya
Stsa. Pokrovskaya
Stsa. Zurubina (Botcharova)
Vinkoma
St. Verukuva
Vinsemska
Kikeleva
Dormidontovka
Kragsilsuy
Zabnikalesku
Buringaskano
Apikayatitenskaya
St. Khor
Kisseleva
Pos. Nevelskoi
Deragenkova
Tcheremyeva
Dzhovskaya
Pogt. Stan.
Sipka
Sipku Mt
Anban Mt
Mitaozo Mt
Kekuiken Mts
R. Hurl
R. Kor
R. Kechuiken or Kekuiken
R. Bikin
R. Iman
R. Vak
R. Suada Vak
R. Botky
R. Taudzuberi
R. Sikulan
R. Doman
R. Murren or Mulen
Kanda Mts
Kentei alin Mts
Peiter Ho
Vukun Ho
Nonni
Da. (Churova)
Saraplisk
K. Dondon or (Solv)
R. Imperatorskaya
Andrema B.
C. Peschanui
C. Crestwodswijensk
C. Timanui
C. Sosnowa
C. Belkina
C. Yujniu
Chamudinza (Sipamugdiuza)
Oprichnik B.
Plastun B.
Tarney B.
Sea of Japan
48°
46°
44°

46°

44°

42°

Kol. Razonbulak
Kum Ganjursume
Kol. Ganstolyoiburuikuduk
Kol. Tsayandcrbuga
Kol. Amonziusunkuduk
Kol. Kojuduiak
R. Shunoshygon
Kl. Dulingon
R. Uzungon
R. Kertingoli
Kol. Bayankailasun
Kol. Kretingoli
Mt Holiogama
Kol. Arakudu
R. Dzulingol
R. Bulgilungol
Kum. Kubukure
R. Tsekelezu
R. Shadurs
Kum. Ganjursame
Kol. Baindalaikuduk
Kol. Arobuluk
Kol. Bilyutyui
Kol. Hodyuretologoi
Kol. Belekeen
Kol. Nomyumsume
Kol. Ilanubusute
Il. Talyunkobu
Kol. Dzdukakerraukkud
Kri. Bombotu
Kum. Boogtusume
Kol. Kabergakuduk
Kol. Sugurinkuduk
Kol. Saikankuduk
Kol.
R. Iutyol
Kol. Talbunkuduk
Kol. Dalaikuduk
Yur Tsebeleya
Kol. Butun
Kol. Gelgukekuduk
Kol. Arokuduk
Kol. Sholonkoduca
Kuntsuyan Nor
R. Togastungel
Artsagan Nor
Kol. Kulusutu
Kol. Sharabudurgana
Kol. Uurma
Tsikildak
Il. Tsakilkulga
Il. Keisu
Kol. Karatologoi
Kol. Kadainusu
Il. Ilanda
Kol. Adyuk
Kol. Kutan
Il. Kuruderese
Il. Tsayundu
Il. Dulu
Il. Idjirka
Il. Gerbuntulga
Kol. Kuhusutaibul
Ir. Djordjikobur
R. Chegon
R. Igegue
Ir. Kulusuiai
Kol. Surbntubulak
Kol. Tezibulak
Kol. Kophelabulak
R. Shizigol
Kol. Tsagankulgusu
Kolonnor
Chapen
Yuzanshandsen
Pinwa
Kangil
Kol. Dushitukud
Ir. Kastahuritu
Ir. Kaluguai
Ir. Torinnur
Kum. Vangunsume
Kol. Chalonkuduk
Ir. Putukirbir
Kol. Buyanbulak
Dyuinsume
Raz. Tsugunsodorga
Raz. Drabgordu
Maihan
Chjutinsume
Okodn. Kum. Imperutritsu
Changensume
Keshkentaide
Tostensume
Ik. Chingisobu
Ir. Buingagan
Barin
Kol. Shiteiyu
Kolegoi
Kum. Durkinot
Shunbgntsze
Kurkunmuke
Degun Bakenda
Supatur
Dabopu
Yukaide
Kunyunzahuai
Nanieke
Laste-dig
Sonir
Mis st Maoshundun
Lasigoi
Vogotu
Dyujun
Tsinshani
Hunbopu
Sinkaider
Kum. Shaddote
Syaotsye
Yantubeu
Okot. Stav Imp. Kansi
Siejenfung
Kuszejatsz
Yangshowan
Wujaying
Liangpoiu
Poying
Yangjadien
Moutaye
Seuzyuheu
Nailiho
Pohako
Lanchukuluep
Tungsseshatsz
Kulachiwangdien
Hunghotsz
Sencher
Kwangdi
Yingfang
Kum. Ertsyugensume
Ir. Kudjurtyungol
Ir. Kudulluk
Tabinsume
Ir. Korta
Ir. Kabirgan
R. Karaunr
Ir. Inik. t
R. Holo
Ir. Kojoiyun
Ir. Dzyunkorol
Ir. Nudom
Ir. Tsaganobu
Kum. Kantabimsume
Ir. Burliilanda
R. Ulichin gol
Kum. Bayankoshu
Kol. Yur
Kum. Tkuhilsumu
Ir. Kayurshidar
Geryolungail
Kol. Naryunkuduk
Kol.
Kum. Kumtuksume
Ir. Kuizenelezu
Ir. Kyurmyurtyunkorol
Dzyurkinkorol
R. Kuilor
Mt Husuitai
Mt Chabchilak-Hada
Mt Kuilek
Mt Bilan-u
Ebole-hubola Mts
Datsitu Mts
M. Saihan
R. Hataihan
R. Temuin
Tchoguan or Tohor
Kara-kersu-ta
R. Urlungchur
Lashaparkuduk
R. Ardala
Kashatu
R. Tolo
Moku
Namgikai
Mt Yaloalin
Kol. Chdadunkuduk
L. Chahan
R. Gotek
Batorgi
Chjantsuitukuduk
Mt Telealin
Kl. Kuisubulak
Dalaikuk
R. Bakir
Shirguter
Dabsat-nor
Bolugen
Bayan Baishin
R. Chelo
Dju Dzyanail
Aginsume
Sainkai
Belyuikesume
Mengikesume
Kuisui
Kukugilail
Shininsun
Tabingur (Oelgotu)
Madziartzia
Baitaodzya
Taka
Shaoshiinza
Dungushor
Madziaczyan
Shiiamko
Chjalu
Shiergudzu
Kushatuail
Ekeruil
Shidzyudzya
R. Naladuk
R. Kabutoho
R. Yingjing
Chifuin
Hoyan
Naiger
Maliger
Ershidzya
Targinsiho
Malka
Kaoshu (Kaoyou)
Sindien
Majaying
Hungtautsz
Wujaying
Niutoshemen
Ngohungfu
Kunyuirfu
Chauto
Majawopo
Yimato
Lamatsz
Szejatsz
Shindi
Shantai
Yunghoying
Hwangveaihe
Sheapodenyingo
Tatszyingtsz
Sunyatsen
Langintsz
Shiyingtsz
Chujatsen
Kaujatsen
Chwangwopo
Szefangtsz
Wutdikou
Yanjadien
Fenseshwang
Wahluu
Seuszjatsz
Kojadien
Mayan
Kuduopinkou
Haujiantsz
Shuitsz
Shichen
Shuchjuntsz
Shukjuntien
Mungkotsz
Shutantsz
Mujadien
Shukjadien
Shuchjatsz
Shuchjuntien
Shuchjuntsz
Shuchjuntien
Shuchjuntsz
Shuchjuntien
Shuchjunt

TSITSIKAR
HARBIN
CHILING (Kirin)
Mt. Bilan-u
Mt. Husuitai
Mt. Chabchilak-Hada
Mt. Kuilek
Mt. Yaloalin
Mt Telealin
R. Kuilor
R. Nonni
R. Tolo
R. Kulan
R. Ichun
R. Sungari
R. Hulan or Kulan
L. Talakun
L. Killen
L. Chahan
Igek Kur (Lake)
Dabsat-nor
Dapo
Yushotai
Chengtsz
Chwengjadun
Chantu
Hulangmen
Tungkotsz
Shutantsz
Bodine
Bodingkor
Chuankiu
Masin
Taku
Padzyadzya
Shadzyagai
Shagadai
Sinja
Tarulung
Difuntsa
Gulu
Beitala
Tarhajan
Beimyaotsui
Dorbi
Chaohodi
Chaoyuan
Papaoshan
Shipaoshan
Pitanhintau
Kilap
Bilimi
Chinken
Antaisien
Lamatsen
Wutai
Tuhaotsaz
Lanchiatun
Tsitsikar
Bayan
Dadowuchuma
Siaowuchuma
Tsiantsaitei
Temuitchei
Tsiamhwandi
Wentokun
Mantszuijan
Halatai
Hutaihan
R. Hataihan
R. Nun
Chukkei
R. Temuin
Tcheguan or Tchan
Kara-kersu-tai
Lashaparkuduk
Kashatu
Moku
Namgikai
Kol. Chdadunkuduk
Batorgi
Chjantsuitukuduk
Kl. Kuisubulak
Dalaikuk
Shinguter
Arbangurbu
Suinnorail
Djulzyan
Suburga (Obelisk)
Shaguuntokoail
Belyuikusume
Mengikesume
Sainkak
Dju Dzyanail
Aginsume
Kukugitail
Shininsun
Tabingur (Olgotu)
Madzhadzya
Taltaodzya
Shirgudzya
Tatszyingtsz
Yungkoying
Hwangveaitu
Sheapedenying
Lamatsz
Szejatsz
Majawopo
Yimato
Wahlun
Fensenhuang
Shuiweiyingtsz
Kojadien
Seuszejatsz
Majadien
Tatszyingtsz
Suwatuen
Langaintsz
Shiyingtsz
Chujatuen
Kaujatuen
Shindi
Chaowopo
Szefangtsz
Wutdikou
Shantai
Lianglung
Ohululu
Hweisanwintsz
Shidzyadzya
Chifuin
Maliger
Naiger
Hoyai
Kuaput
Bekepenkume
Vostasil
Djilinail
Tsuryasume
Boldyunsume
Norumo
Nuru
Ikentalindzyaka
Kol.
Kamintala
Tangaryuksume
Takiwangchan
Shirgin
Shinchan
Shinhungchwang
Chwangjinda
Nongjenchen
Shiangjdien
Kabarga (Shendjin)
Kungyuentsz
Mugajanmanka
Omon
Juniga
Tsagansume
Bodine
Bodingkor
Chuankiu
Lindelin
Taku
Padzyadzya
Shadzyagai
Shagadai
Masin
Sinja
Tarulung
Difuntsa
Gulu
Igek Kur (Lake)
Lashaparkuduk
Kashatu
Moku
Namgikai
Kol. Chdadunkuduk
Batorgi
Chjantsuitukuduk
Kl. Kuisubulak
Dalaikuk
Shinguter
Arbangurbu
Suinnorail
Djulzyan
Suburga (Obelisk)
Shaguuntokoail
Belyuikusume
Mengikesume
Sainkak
Dju Dzyanail
Aginsume
Kukugitail
Shininsun
Tabingur (Olgotu)
Madzhadzya
Taltaodzya
Shirgudzya
Tatszyingtsz
Yungkoying
Hwangveaitu
Sheapedenying
Lamatsz
Szejatsz
Majawopo
Yimato
Wahlun
Fensenhuang
Shuiweiyingtsz
Kojadien
Seuszejatsz
Majadien
Tatszyingtsz
Suwatuen
Langaintsz
Shiyingtsz
Chujatuen
Kaujatuen
Shindi
Chaowopo
Szefangtsz
Wutdikou
Shantai
Lianglung
Ohululu
Hweisanwintsz
Shidzyadzya
Chifuin
Maliger
Naiger
Hoyai
Tsitsikar
Bayan
Dadowuchuma
Siaowuchuma
Tsiantsaitei
Temuitchei
Tsiamhwandi
Wentokun
Mantszuijan
Halatai
Hutaihan
R. Hataihan
R. Nun
Chukkei
R. Temuin
Tcheguan or Tchan
Kara-kersu-tai

TSITSIKAR
HARBIN
CHILING (Kirin)
NINGUTA
VLADIVOSTOK
Kanda Mts
Mts Muhudehen
Kentei alin Mts
Mts Lo-e-lin
R. Nonni
R. Sungari
R. Hulan or Ilan
R. Kulan
R. Ichun
R. Tsitsihar
R. Huyuni
R. Hutaihan
R. Mur
R. Tolo
R. Alchuka or Aye R.
R. Mutan
R. Maoer Ho
R. Ussuri
R. Suifun
R. Murren
R. Norui
R. Wikon or Vukon Ho
R. Bulan or Naren
R. Chalt
R. Tim
Feiter Ho
Lanchiatun
Tuhaotsaz
Wutai
Lamatsen
Antatsien
Beimyaotsu
Beitala
Tarhajan
Difuntsa
Gulu
Igek Kur (Lake)
Kuruimj
Sinja
Shadzyagai
Shugadai
Padzyadzyan
Taku
Sityas
Tsagansume
Bodingsyan
Bodine
Gungashan
Omon
Shirindien
Kungyuentsz
Kabaryan (Shendjen)
Takiwangchan
Wongpichen
Shinchan
Shinhingchwang
Chinangjindi
Dapadzhitsze
Shawangyangpau
Yushotai
Chengtsz
Puhweicheng
Chwangjiadun
Shuhpingjin
Chantu
Hungkotsz
Hsiangmen
Yiyuncho
Ipadan
Kiwanjir
Nanfolo
Jinchen
Jinchokotsz
Whuhoko
Nishichan
Hachun
Jinpinko
Dasuiho
Yuhaimu
Jinchenghsiulo
Baikuan
Sholan
Dapo
Sun Kotin
Djankuandien
Saryanshan
Tukuelan
Tulite
Lalin Chen
Fungalin
Ichantin
Sakuri
Keulotsz
Tsitsihar
Lanchiatun
Tuhaotsaz
Wutai
Lamatsen
Antatsien
Chiakeu
Kara-kursu-tai
Lashaparkuduk
Kashatu
L. Talahun
L. Killen
L. Chahan
Moku
Namgikah
Kuquut
Bekepenkume
Vostasil
Tsuryasume
Holdyunsume
Nuru
Kol.
Kaminkata
Ngaryuksume
Tcheguan or Tchor
Mantszuijan
Wentohun
Siamhwandi
Chukiei
Hutaihan
Halatsi
Sienlungtai
Tsitsikar
Lanchiatun
L. Kuyur
L. Ontchon
L. Chahan
Kitap
Pitanlintsu
Shipaoshan
Papaoshan
Chaoyangpi
Chaohovpi
Shinngentsz
Linvanmiao
Taipinshan
Taiqituho
Bayansusu
Jonhoti
Siengiatsien
Bilinai
Chaoyangqigan
Taula
Saoizuta
Hulunchan
Mantsia
Taxida'axuitsza
Myaoerlin
Pruhen
Halaktai
Sibaertalgeshan
Kuapgoigeshan
Baligeshan
Dolingeerhanshan
Pulikeza
Tsulitsaigeshan
Tsuhuchingeshan
Mosin
Anyeanakaihan
Chiak
Shuangjingzi
Lalin
Tiaojen
Mongukuhsun
Ilanhau
Kalaketsza
Sushuidantsza
Jangyuan
Nanyuan
Sakuri
Keulotsz
Tchantin
Fungalin
Tulite
Tukuelan
Lalin Chen
Fikta
F. Shanmiao
F. Mudyan
F. Shanmaicho
Kundyanzuhin
Sinkalu
Kunshilinzza
Linchuan
Tsitsik

HARBIN
CHILING (Kirin)
NINGUTA
VLADIVOSTOK
Kanda Mts
Kentei alin Mts
Mts Muhudehen
Ma Loe-ind
Sipku Mt
L. Khanke (Sin Hai Ho)
Feiter Ho
R. Sungari
R. Ussuri
R. Suifun
R. Iman
R. Sungacha
R. Amur
R. Nonni
R. Nonni or Nun
R. Hulan or Kulan
R. Ichun
R. Tum
R. Chalt
R. Tum or Tum
R. Wukoli or Vukori Ho
R. Sikulan
R. Taudziberi
R. Murren or Mulen
R. Doman
R. Bikin
R. Samara Vak
R. Vak
R. Wakhu
R. Mutu
R. Mutu or Mutu Ho
R. Mutu or Mutu Ho
R. Meyer or Mai Ho
R. Mudan or Mudan (Kirin)
R. Alichuka or Aye R.
R. Butan or Naren
R. Kuile
R. Kuile
R. Kuile

Kaertingeshan
Sterbaringeshan
Ilmingeshan
Butuhe
R. Nor
Omin
Goldeva
Kebrovaya
St. Kebrentchika
Llovayska
Pongeshan
Podluk
Katongiru
Nilka
Kilkoma
Vankaton
Sravidzuke
Azyeusi
Charinei
R. Urka
Vobiaya
St. Longakova
R. Noru
Vonbabnzu
Kozlovskuya Fanza
Sipku Mt
Suan
Deikengeshan
Igemungeshan
Hogenho
Bonaudza
Kurkin
Kamilinho
Orenvaryskiee (Fanza)
R. Onuri
St. Vasilevskaya
Stsa. Pokrovskaya
Chamudinza (Sipmaybuza)
C. Sosnowa
Stsa. Zurubina (Hotcharova)
R. Doman
R. Bikin
Fanza
Nij. Nikolskaya
Mj. Mikailovskaya
Lopatinskai Stanok
Vukon Ho
Kanda Mts
Stsa. Kritoberejnbiustanok
Knyajevskaya
R. Sikulan
R. Tadzriberi
C. Belkina
Ima. Kauza
Stsa. Gratskaya
Ima. Yuku
Krashoyarskaya
Stsa. Llanskaya
St. Muriavlef Amurskii
R. Vak
R. Iman
Kentei alin Mts
Feiter Ho
R. Murren or Mulen
F. Okoo
Stsa. V. Nikolskaya
Stsa. V. Mikailovskaya
F. Chinzuiu
Markova
St. Prokaska
Stsa. Bisse
R. Samdia Vak
Wiaku
Limiahanlau
R. Litkovskago
Onusouri
L. Mal. Khanka
T. S. Tirmeneva
Tsirintsy
Pogt. St. N° 3
F. Situka
Jagi
Platopo Alekseandrovskaya
L. Kharike (Sin Hai Ho)
Longmaya
Pogt. St. N° 4
Ispenka
Nijne Romanovskaya
F. Chupigoi
Nobinskaya
Trotskaya
Lebada Baravaskha
Astrakanskaya
Braliova
F. Famagi
Swingina
F. Djiniaga
Noto Kouza
A. Kobitin
Gaivoron
Spaskaya
Prokofevka
Dmitrovka
Chernigovka
F. Palbo
F. Chinguiza
T. S. Yakovleva
Ir. Suanesa
F. Tudogoi
F. Tyu Kondogiu
T. S. Lazureva
Sundogi
C. Vujniu
Lyalagi
Amuginu
Gordievka
F. Traodagi
F. Tui Bruya
F. Yu Sandogio
G. Chamba Fanzi
G. Lobulazu
F. Turigni
Per. Petrovskii
Vladimir B.
C. Sovor
Olga B.
C. Nizmennui
Ewstophia B.
G. Zelenaya
Taiho
F. Khandeya Dudra
F. Takuveii
Serapevka
F. Shanduiza
Panauy
Prolovka
G. Ostrun
G. Tolan
Walentina B.
Opasnui Is.
Novikaya
Peratino
Arushi
Vladimirovka
Alekhandrovka
Golubovka
Vrasdinii y Alexandrovka
Anastasovka Rudnikovka
Askolide Is.
C. Castrovoi
C. Murelnui
Russia Is.
Peter the Great B.
America B.
Usuriis B.
Mts Muhudehen
Korsakovsku
Nikolsk
Vozdhizenskaya
Voznesenskoe
Ivanovka
Nikolaevka
Nikolaevka
Iman
Iman
Vozdhizenskaya
Iman
Iman
Iman

44°
42°
40°
PEKING
CHEN-DE
KIN-CHAU
MOUKDEN
YUNGPING
GULF OF LIAO
L. Chahan
L. Kuku
R. Shiramurin
R. Laoho
R. Chelo
R. Bakir
R. Shibu gol
R. Yingjing
R. Kabotoho
R. Naladuh
Mt. Yaloalin
Mt. Telealin
Dabsat-nor
Artsagan Nor
Kuntsugan Nor
Dzogstungol
Dzirim gol
Bayan Baishin
Bolegen
Barin
Chifuin
Hoyao
Ching-kobsz
Kol. Chdadunkuduk
Kol. Talunkuduk
Kol. Dalaikuduk
Kol. Neryumsume
Kol. Ilanubusute
Kol. Bumbotu
Kol. Kabergakuduk
Kol. Bulun
Kol. Gelgukukuduk
Kol. Arokuduk
Kol. Sholonkodura
Kol. Kulusutai
Kol. Sharabudurgana
Kol. Durme
Kol. Karatologoi
Kol. Kadaznusu
Kol. Adyuk
Kol. Tsaganhalgasu
Kol. Dushitukud
Kol. Kopkelabuluk
Kol. Chulonkuduk
Kol. Buyanbuluk
Kol. Shcheiyu
Kol. Gum Elyusutukuduk
Kol. Bumbatu
Kol. Medunkuduk
Kol. Kulusutu
Kol. Tamutukuduk
Kol. Kankud
Kol. Kuisubulak
Kol. Kaminta la
Kol. Kulusutai
Kol. Ikutsla
Kol. Ikutsla
Kol. Kulusutu
Kol. Burgasatukuduk
Kol. Gushunkuduk
Kol. Suurgantu nor
Kol. Shurgantu nor
Kol. Kulusutu
Kol. Tamutukuduk
Kol. Kankud
Kol. Kuisubulak
Kol. Kaminta la
Kol. Shcheiyu

Mt Yaloalin
L. Killen
L. Chahan
R. Goteh
Mt Telealin
R. Halir
Dabsat-nor
R. Cholo
Shiramurin
R. Laoho
R. Naladuh
GULF OF LIAO
R. Liao
R. Sungari
Chang peh Mts.
MOUKDEN
KIN-CHAU
CHILING (Kirin)
NINOUTA
Tsagansume
Bodine
Tungashan
Tungkyuentsz
Kabaryn (Shendjen)
Tshwangchan
Nongonchen
Shirga
Shinchan
Shintungchwang
Chinanginmu
Dapadzhatsze
Shwangyanfaul
Yushotai
Chengtsz
Puhweicheng
Chwengjackun
Shukpingjin
Chantu
Hungkotsz
Holangmen
Seutaintsz
Kaiyuen
Tatszyingtsz
Yinghoying
Lamatsz
Szejatsz
Majawopo
Vimato
Seuszejatsz
Sinminching
Kaotaitsz
Pehpotsz
Kwan-nin-miao
Chaoyan
Kungchangfang
Pingfantsze
Ertaitsz
Shinglundien
Tatsing
Tapiting
Liutgtuen
Yanchauko
Erhotau
Tushan
Hongchijing
Leingshanche
Hoshantai
Baipo
Ning yuen
Tynchimen
Chilipo
Sahosuo
Manjatai
Shenkungting
Pingchuangtsz
Shenting
Langtungfang
Chengtangho
Wutszden
Laudaokau
Hoyui
Shidzyudzya
Shilammiko
Madziadzyan
Shaoshiinza
Dungshotz
Taba
Madziantziu
Tabingur (Olgotu)
Shininsun
Kukugilail
Kuisui
Mengkesume
Belyuikesume
Sainkak
Aginsume
Dju Dzyanail
Suburga (Obilisk)
Dzyaluimmodoail
Staugauntokoiail
Suinnorail
Djudzyan
Arbangurbu
Kol.
Kaminta la
Tangaryuksume
Ikentalindzyaka
Nuru
Norumo
Tsuryasume
Boldyunsume
Vostasil
Djilinail
Bekepenkume
Kuapait
Shirga
Shintaicil
Shinguter
Dalaikuk
Kl. Kuisubulak
Chjantsuitukuduk
Batorgi
Kol. Chdadunkuduk
Mantekr
Juniga
Omon
Shingjadien
Bodine
Tungashan
Tungkyuentsz
Kaiyuen
Shihpuutsz
Shihchen
Majatien
Shihjuntien
Shako
Chungkuchan
Kaulichen
Chingshuihwang
Telin
Shuhsiutien
Shuangtaitsz
Shuangmiaotsz
Shuangliaotsz
Shuangkaotsz

NINOUTA

CHILING (Kirin)

KIUNGSUNG

VLADIVOSTOK

Mts Muhudehen

Chang peh Mts.

Ma Loe-Ho

R. Sungari

R. Suifun

L. Kharike (Sin. Hai Ho)

Russo Is.

Askelide Is

Opasnui Is

Peter the Great B.

America B.

Ussuria B.

C. Nizmennui

C. Sovor

C. Vujn

C. Castrovoi

C. Huvelnui

Olga B.

Vladimir B.

Ewstaphia B.

NOVIK BAY

VLADIVOSTOK

XUM

VLADIVOSTOK

MURAVEV AMURSKI

MURAVEV PROMONTORY
(ALBERT PENINSULA)

EASTERN BOSPORUS OR HAMELIN STRAIT

NOVIK BAY

XUM

L. Khanka
(Sin Hai Ho)
Muhudehen
Russo Is.
Askelide Is
Opasnui Is
Plastun B.
Oprichnik B.
C. Vujniu
C. Sovor
C. Nizmennui
Olga B.
Vladimir B.
Ewstophia B.
C. Castrovoi
C. Hvorolnui
Peter the Great B.
America B.
Usperia B.
Razdolie
Suifun
Muravievka
Nikolsk
Barabash
Pepova Gora
Amba Gulay
Shkotovo
Almazovka
Begopolovka
Russkaya
Nujina
Isuevo
Tiraspolskaya
Khilkoya
Shokotova
Romanovka
Petrovka
Maikinskaya
Novokatunigi
Velikokniazheskaya
Novo Ilussievka
Tiakho
Novikaya
Peratino
Vladimirovka
Aleksandrovka
Golubevka
Vreadimiry Alexandrovka
Kruglovka
Ruslanovka
Nijne Romanovskaya
Ispenska
Shmakovka
Braliova
Suifungin
Noto Kouza
Kobitin
Palbo
Chingniza
Tudogai
Tyu Kondogiri
Sundogi
Gordievka
Iraodagi
Tiri Bruya
Ku Sandogi
Turigni
Lobulazi
Patrovskii
Khandeya Didi
Takoveü
Serpevka
Shandiuza
Ostrau
Tolan
Zelenaya
Chamba Pinzan
Yakovleva
Lazureva
Suanesa
Chernigovka
Dmitrovka
Spaskaya
Prokofievka
Gaivoron
Lebeda
Baranovskaya
Nobinskaya
Troitskaya
Atamanovka
Astrakanskaya
Lipovaya
Varfolomeevka
Lyalagi
Morozovitchi
Jarkova
Lifunya
Staryagi
Vladimir B.
Olga B.
Ewstophia B.
Plastun B.
Oprichnik B.
C. Vujniu
C. Sovor
C. Nizmennui
C. Castrovoi
C. Hvorolnui
Peter the Great B.
America B.
Usperia B.
Razdolie
Suifun
Muravievka
Nikolsk
Barabash
Pepova Gora
Amba Gulay
Shkotovo
Almazovka
Begopolovka
Russkaya
Nujina
Isuevo
Tiraspolskaya
Khilkoya
Shokotova
Romanovka
Petrovka
Maikinskaya
Novokatunigi
Velikokniazheskaya
Novo Ilussievka
Tiakho
Novikaya
Peratino
Vladimirovka
Aleksandrovka
Golubevka
Vreadimiry Alexandrovka
Kruglovka
Ruslanovka
Nijne Romanovskaya
Ispenska
Shmakovka
Braliova
Suifungin
Noto Kouza
Kobitin
Palbo
Chingniza
Tudogai
Tyu Kondogiri
Sundogi
Gordievka
Iraodagi
Tiri Bruya
Ku Sandogi
Turigni
Lobulazi
Patrovskii
Khandeya Didi
Takoveü
Serpevka
Shandiuza
Ostrau
Tolan
Zelenaya
Chamba Pinzan
Yakovleva
Lazureva
Suanesa
Chernigovka
Dmitrovka
Spaskaya
Prokofievka
Gaivoron
Lebeda
Baranovskaya
Nobinskaya
Troitskaya
Atamanovka
Astrakanskaya
Lipovaya
Varfolomeevka
Lyalagi
Morozovitchi
Jarkova
Lifunya
Staryagi
Matopo Alekseandrovskaya
Tsirintsy
Jagi
Pogt. St. N° 3
Pogt. St. N°
Langmayo
Shmakovka
Isperska
Nijne Romanovskaya
F. Chupigoi
F. Famugi
F. Djiviauga
Suifungin
Noto Kouza
Kobitin
F. Palbo
F. Chingniza
F. Tudogai
F. Tyu Kondogiri
T. S. Yakovleva
T. S. Lazureva
Ia. Suanesa
Sundogi
Gordievka
Iraodagi
F. Tiri Bruya
F. Ku Sandogi
F. Turigni
G. Lobulazi
G. Chamba Pinzan
Per. Patrovskii
F. Khandeya Didi
F. Takoveü
Serpevka
F. Shandiuza
Ostrau
G. Tolan
Walentina B.
G. Zelenaya
Taiho
Ewstophia B.
C. Nizmennui
Olga B.
C. Sovor
Vladimir B.
Oprichnik B.
Plastun B.
C. Vujniu
Opasnui Is
Askelide Is
C. Castrovoi
C. Hvorolnui
Peter the Great B.
America B.
Usperia B.
Razdolie

GULF OF PECHILI
GULF OF LIAU-TUNG
PECHILI STRAIT
KORE
CABLES
40°
38°
PEKING
SUENWHA
CHEN-DE
KIN-CHAU
YUNGPING
TIENTSINFU
HETSIANGFU
TSICHEU
LINTSINCHEU
UDINFU
TSINCHHEUFU
LAICHHEUFU
DENJEUFU
Tokitai I.
Kaoshan I.
Takishan I.
Chanshan I.
Tachushan I.
Talienwan Bay
Port Arthur (Lushunko)
Chifu (Yantai)
Fusan
Ninhaijou
Wenden
Zhunchen
Liukundao I.
C. Shantung
Shidao (Mosyedao) I.

MOUKDEN
KIN-CHAU
GULF OF LIAU-TUNG
KOREA BAY
PECHILI STRAIT
P E C H I L I
Talienwan Bay
Port Arthur (Lushunkou)
DENJEUFU
Chifu (Yantai)
LAICHHEUFU
Weihaiwei
Liukundao I.
C. Shantung
Tachushan
Takushan I.
Chanshan I.
Tokitai I.
Kaoshan I.
CABLES
Chang peh Mts.
PYANGYANG
HWANGJU
HAIJU
KAISUNG
SEOUL
CHUNGJU
HAMHUNG
CHINCHUN
Yesuh Kang
Yalu R.
Taiyuen
Kaifeng
Kaifong
Kaifeng
Kaifeng
Kaifeng

Chang peh Mts.
MOUKDEN
KIUNGSUNG
HAMHUNG
CHUNGJU
PYANGYANG
WHANGJU
HAIJU
KAISUNG
SEOUL
CHIUNCHUN
REA BAY
J
A
P
A

XUM

Chang peh Mts.

KIUNGSUNG

HAMHUNG

CHUNCHUN

SEOUL

JAPAN SEA

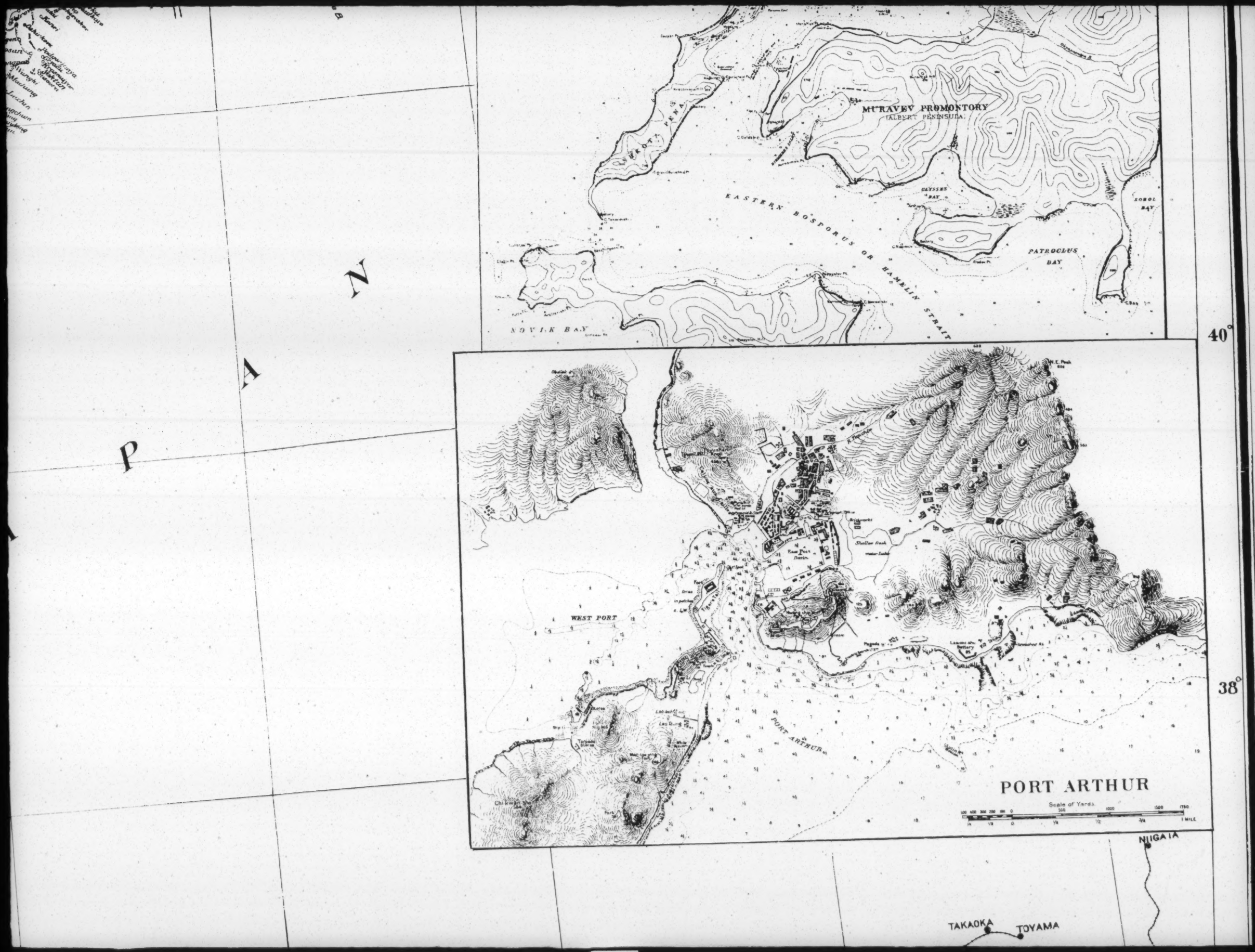
EASTERN BOSPHORUS

NOVIK BAY

WEST PORT

PORT ARTHUR

XUM


MURAVEV PROMONTORY
(ALBERT PENINSULA)
EASTERN BOSPORUS OR HAMELIN STRAIT
CLYSSES BAY
PATROCLUS BAY
SOBOL BAY
NOVIK BAY
40°
38°
WEST PORT
PORT ARTHUR
Scale of Yards
1 MILE
NIIGATA
TAKAOKA
TOYAMA

XUM

GULF OF PECHILI

PECHILI STRAIT

KOREA

YELLOW SE

CABLES

38°

36°

34°

HETSIANGFU

TSICHEU

LINTSINCHEU

DUNCHANGFU

UDINFU

TSINCHHEUFU

SINANGFU

TAIANGFU

TSININCHEU

TSIUFU

YANGCHEUFU

SAOCHEUFU

HUIDEFU

SIUICHEUFU

YICHEUFU

LAICHHEUFU

DENJEUFU

FUSHAN

CHIFU (YANTAI)

Tokitai I.
Kaoshan I.
Takishan I.
Chanshan I.
Tachushan I.
Liukundao I.
Staunton I.
Yuchau I.
Tszinlitai I.
C. Shantung
C. Adkin
Toloshan I.
Shidao (Mosyedao) I.

Dalny
Talienwan Bay
Port Arthur (Lushunkou)
Weihaiwei
Haiyang
Laiwu
Boshang
Yangtsungpu
Lingtsi
Boching
Suchhsu
Suinin
Tanyuan
Andun
Funin
Peichheu
Haichheu
Yancheng
Gangyui
Shuyan
Sutsian
Bochau
Susing
Danshang
Yuchang
Feng
Fei
Ten
Tsiu
Tseu
Yuitai
Dintao
Yunchen
Pingyin
Feicheng
Dunhwang
Tsiuanchwang
Yungchuan
Tsiaotsiachwang
Tsiaotsiaotou
Tsiaotsiaolou
Tsiaotsiaochwang
Tsiaotsiaochwang
Tsiaotsiaochwang

KOREA BAY

PECHILI STRAIT

P E C H I L I

Y E L L O W S E A

CABLES

Talienwan Bay

Port Arthur (Lushunko)

DENJEUFU

Chifu (Yantai)

LAICHHEUFU

Tokitai I.

Kaoshan I.

Takishan I.

Chanshan I.

Tachushan I.

Wethaiwei

Liukundao I.

C. Shantung

Staunton I.

Shidao (Mosyedao) I.

C. Adkin

Tszinlitai I.

Toloshan I.

Yuchau I.

Juchan

Tsiachau

Tsimo

Haiyanso

Laiyan

Zhunchen

Lidao

Sinshanso

Wenden

Nintsinso

Tsishantsai

Sankai B.

Siaolo

Tsaitoutsi

Haotsun

Luntsuntan

Erlchilifu

Minhaijou

Pinduchen

Tsingvanhe

Dashanso

Mankwantsai

Tushantsai

Wanchhantwang

Shiludian

Tsuitsiapu

Laitsiajwan

Shengtang

Seshantsia

Siadian

Shitou

Haitsen

Shacho

Huibu

Sinhotsiao

Pinliding

Shilipu

Jujiaojen

Sichhonding

Hwangshanhwang

Beitatsi

Hwansian

C. Tsimatai

Santai

Kundziachwan

Lungeu

Ushiltfu

Pinchan

Yastahuan

Jukeudin

Kusin

Tsiunmshuidan

Liutsiading

Nanyuanchwang

Chhaoyuan

Tsiaosia

Houtzia

Sisia

Houtsia

Sikou

Liuyi

Santsintin

Tsiachokou

Laitsiajwan

Haomi

Taotsiajwan

Tsujeutsi

Tsinhwei

Sitai

Paijiho

Tsuiyuetsi

Aitsu

Maxian

Maotaho

Tsiachokou

Mintszetsuikoi B.

Hwanlunchwan

Tunkiakeu

C. Yadai

Niuhukeu

Kiaochau

Tsingtau

Hwayuen

Kanyuntsi

Liushodun

Litura

Dalny

Shuishiying

Liaotishan

Kinchow

Pulantien

Kinchou

Kinchou B.

Pulantien B.

Tsinkai B.

Yuliaikoi B.

Haiyanso

Tsinhaiwei

Hwangchow

Kaiping

Yingkow

Kaiping

Kaiping

Kaiping

J
A BAY
E A
H
R
E
A
PYANGYANG
WHANGJU
HAIJU
KAISUNG
SEOUL
CHIUNCHUN
CHUNGJU
KONGJU
CHUNJU
TAIKOO
KWANGJU
Chemulpo
Tsushima
HAGI

J

WEST PORT

PORT ARTHUR

Chikwan Shan

TAIKOO

Tanseng

Anso

Konyang

Hatonge

Sinsendo

Namhai

Namhaido

Hansando (Observatory I.)

Seen I.

Keumnyangdo

Tsushima

Tsushima Sound

Idzuhara

Medakao

Adzuro

Owura

Minato

Saka

Kasa

Chinju

Kamam

Chinhai

Chiaun

Chinaepho

Koje

Kojedo

Chongnyang

Danyang

Yangchun

Hwachung

Hanghai

Sinryang

Kichang

Yichun

Samchuk

Hulchin

Younghai

Yanghai

Chiachu

Kosung

Kansung

Kongsuchun

Hoiryung

Chungsun

Chungkangnyuk

Kangsungnyuk

Sungwunnyuk

Inipnyuk

Yunkokyuk

Kangneung

Animnyuk

Mukcho

Chunuk

Bukpiangchung

Hwangsanpo

Kunsan

Sunchun

Chinnampo

Kunsan

Chilkok

Hayang

Chaisan

Sunchon

Kurye

Hyupchun

Chinju

Kusan

Chinhai

Chinhae

Kojedo

Chongnyang

Namhai

Hansando

Keumnyangdo

Tsushima

Idzuhara

Medakao

Adzuro

Owura

Minato

Saka

Kasa

Tsushima Sound

HAGI

HIROSHIMA

IMABARU

KAMAGASEKI

MATSUYAMA

OKAYAMA

TAKAMATSU

TOKUSHIMA

MATSUE

TOTTORI

HIMEJI

KOBE

OSAKA

SAKAI

KYOTO

FUSHIMI

NARA

UENO

WAKAYAMA

HIKONE

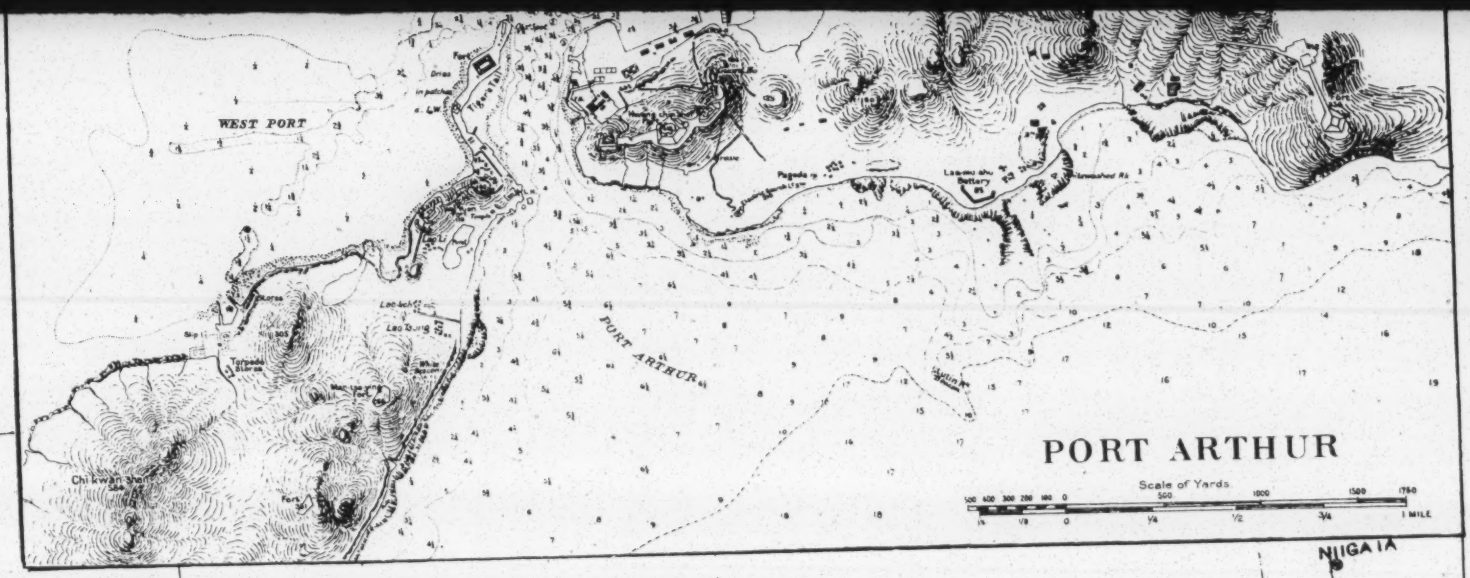
FUKUI

KAMA

H O N S H I K O K U

D

XUM



38°

NIIGATA

TAKAOKA

TOYAMA

KANAZAWA

FUKUI

36°

GIFU

HIKONE

NAGOYA

SHIZUOKA

MATSUE

TOTTORI

KYOTO

FUSHIMI

YOKKAICHI

UENO

TSU

HIMEJI

OSAKA

NARA

KOBE

SAKAI

OKAYAMA

TAKAMATSU

WAKAYAMA

HAGI

HIROSHIMA

TOKUSHIMA

IMABARU

34°

XUM

YELLOW SE

KOREA A

SECOND D

(MILI

SAQCHEUFU
Dintao
Changtaitsao
Wanhsiutung
Tsiutszeutsi
Sanghungmiao
Talangsian
Shitszetsa
Tsitsiatsu
Yuitai
Chengtsiutse
Tsiasian
Tsèu
Ulitu
Shiliu
Ten
Ninshan
Huchwang
Utstachwang
Chatsiu
L. Tatsu
Feng
Shi
Yuicheng
HUIDEFU
Old Bed of Hoangho
L. Weishang
Lingkun
Danshang
Siayi
Susing
SIUICHEUFU
Siuitsikeu
Bochow
Suchhu
Linh
Sichhen
Manchen
Hwaiyuan
FENYANGFU
Inshan
Sheufengchheu
Dingyuang
Hetsiu
Tunsin
Chihsaya
Chuchheu
Tsiuantsiao
Tsiangnu
LIUANCHHEU
LUCHHEUFU
Hanshan
Chaosian
Hochheu
Hoshang
Shucheng
Hwangtsiadu
Wuweichheu
Lutsiang
Tungcheng
Yatsang
Tsungyangchhe
Tsiangshang
Shipai
Tiantindiang
Wangtsiachao
Liangchang
CHICHHEU
Tsinyang
Hunhwang
Chhangtsiaduchhe
Tsinsiang
Ninghe
NINGHOFU
Hwangdechheu
Chansin
HUCHHEUFU
Tsinpu
Tsianping
Tungling
Nanlin
Wuhu
Tutsan
Tanchan
Pimatsun
Liyan
Haochun
Suhu
TAIPINGFU
Lishui
Tsintan
CHANGCHEUHU
Tsiuizhun
Danyan
NANKING
(TSIANGNINGFU)
CHHENTSIANFU
Taisin
Hwachheu
Lunwanmiau
Yichhen
Luhe
YANCHHEUFU
Laian
Chihsia
Tsintsian
Tsianin
Tuncheu
Haimintin
Chanshu & Chaowen
Usi & Tsinhui
Yisin & Tsintsi
SUCHEUFU
Hunshan
L. Sinyan
Taitsancheu
Tsiadin
Baoshan
Wusun
R. Wusun
Natseu
Utsian & Chhentse
Tsihutin
SHANGHAI
Chuanshatin
Chunmin
Chunmin I.
Sitaisha I.
Tsinhie
HWAIANFU
Baoyan
Yuihwa
Anchen
Sinhwa
Haoyuchheu
Duntai
Taicheu
Funtichhan
Zhuhao
Shitsianchhan
Tiancha
Suiyi (Huji)
Sutsian
Suinin
Tanyuan
Andun
Funin
Mingbiangpu
Shuyan
L. Shoisun
L. Tsin
Shacho
Loma
Peichheu
Yancheng
Haichheu
Yuchau I.
Funhwantsin
Gangyui
Hinhiuchin
Tsinho
Shangchanmaho
Yihe
Sitsiho
Datsitou
Fei
Suipundian
Liushudiantzi
Siacheni
Tantou
Dupintsi
Dushuitang
Litsiachwang
Tsiuicheu
Jetsian
Dachhang
Tsinshapu
Zhijao
Sachwantsi
Hwansipo
Tsiunyuanchwang
Andunwei
Shiliyu
Toloshan I.
Linshanwei
Hwaheso
Yihe
Kaiho
Suiho
Shuyanho
Mingbiangpu
Lomo
Shacho
Hoho
Huaiho
Hwaiho
Liwo
Chiho
Hantsaho
Yunho
Yangtsze Kiang
Shuyangpu
Tsiho
Hwangyang
Sijan Kiang
L. Baoying
L. Hungtsie
L. Hutsing
L. Tai
R. Lianyu
CABLES TO NAGASAKI
Map of the Far East
Map of the Southe
British Admiralty
25 20 15 10 5 0
34°
32°
118°
120°
122°
124°
XUM

YELLOW SEA

MAP OF KOREA AND MANCHURIA

PREPARED BY THE

SECOND DIVISION, GENERAL STAFF

(MILITARY INFORMATION DIVISION)

WAR DEPARTMENT

WASHINGTON, U. S. A.

FEBRUARY, 1904.

SCALE OF MILES

25 20 15 10 5 0 25 50 75 100 125 150

REPRINT

AUTHORITIES

Map of the Far Eastern Spheres of Russian Influence, by the Amur Society of Japan.
Map of the Southern Boundary Region of Asiatic Russia, by the Russian General Staff
British Admiralty and U.S. Hydrographic Charts

Note: Korea generally mountainous. • Wells on caravan routes in Desert of Gobi.

122° 124° 136° *Longitude East from Greenwich* 128°

KOREA

Saeumdo
Chilyangdo
Magaido
Changhwa
Mokdo
Barren I.
Taigasi
Chinampo
Chinnai
Sanjido
Yimchin
Taidundo
Maikado (Modeste I.)
Sochhodo (Mackau I.)
Chunggwan
Hydrographer Grp
Sajido
Tochho
Kasado
Yugodo (Nimrod I.)
Sochungkwan (Maury Is.)
Henksando (Ross I.)
Chaendo
Yuldo
Imchhido
Mojido (Amherst I.)
Phophokkai
Markieng
Kimje
CHUNJU
TAIKOO
Puan
Tengmin
Kumyu
Kemmapho
Kobue
Poun
Imsil
Sinsan
Hongdok
Chengup
Mujang
Kochaung
Changsong
Unpong
Namwon
Impyongdo
Tamyang
Sunchhang
Poksong
Samhe
Chihilsando
Imjado
Yongkwang
Sogasi
Imchhen
Kiongyang
Hamphiong
Kagado
Chidopyoliman
Pepsongkai
Chinipdo
Changdo
Chhonai
Muan
Naju
KWANGJU
Yongsang
Namphiong
Moje
Ankai
Yimchin
Takienpho
Korem
Mongpho
Nungju
Pokhion
Nakan
Sunchhen
Yongam
Posong
Chejin
Changhong
Hangyong
Pulkai
Chindo
Hoiram
Kangjin
Kojanghong
Auckland I.
Herschel I.
Seen I.
Keumgapdo
Namdokai
Kaksokdo (Tracy I.)
Pollado (Hooper I.)
Mado
Hlyongdo (Douglas I.)
Washington Gulf
Taldo
Gosien I.
Kwando (Mandarin I.)
Surakdo
Bruok I.
Virginie I.
Udo (Montressor I.)
Isando
Soeumdo
Montebello I.
Nanhow Grp
Kujukdo
Pinnacle I.
Audo (Castle I.)
Komundo
Port Hamilton
Tainang (Montravel)
Chhorando (Thornton I.)
Bate Grp
Beaufort Anchorage
Odaeghoa
Pongdang
Pieljapho
Cheju (Hisetsin)
Udo
Kochengwi
C. Dundas
Chongwi (Hisenhui)
Mionguol
Ranhe
Quelpart I.
Taiyan
Haupho
Barlow I.
Giffard I.
Bunett I.
Richardson I.
McDougall Pt
Keumno (Sarrow I.)
Sekot
Yangtze Kiang
Anchen
Yuihwa
Duntai
Funkchhan
Zhuhao
Shitsianchhan
Tuncheu
Tsianin
Sitaisha I.
Haimintin
Chanshu & Chaowen
Tsinhui
Chunmin I.
Hunshan
L. Sinyan
Taitsancheu
Chunmin
SUCHEUFU
Tsiadin
R. Wusun
Baoshan
Wusun
Natseu
Chuanshakin
Taihutin
Tsinpu
SHANGHAI
R. Yangtze
CABLES TO NAGASAKI

MAP OF KOREA AND MANCHURIA

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SEA

KOREA STRAIT

CABLES TO VLADIVOSTOK

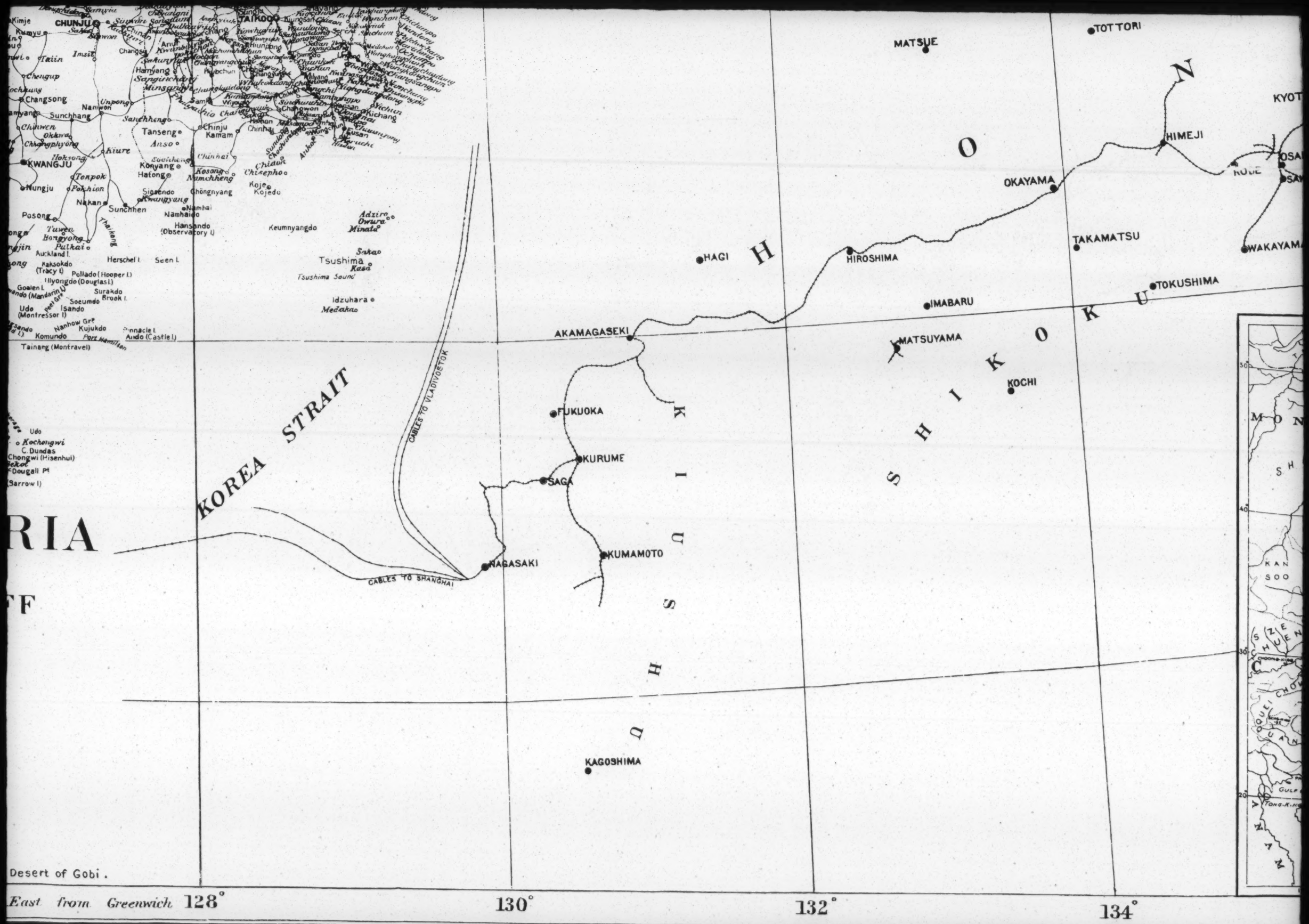
CABLES TO SHANGHAI

HONSHU

CHUNJU
TAIKOO
KWANGJU
Naju
Nungju
Kangjin
Posong
Changhonga
Sunchhang
Namwon
Changsong
Kochaung
Mujango
Sinsano
Honydok
Kemmapho
Puan
Tengmin
Kumyu
Kimje
Markieng
Magaido
Changhwa
Mokdo
Barren I.
Taigasi
Chilsando
Sogasi
Chidopyolman
Changdo
Chhonai
Sanjido
Yimchin
Takienpho
Mongpho
Chejin
Maikado (Modeste I.)
Sochhodo (Mackau I.)
Taidundo
Chaondo
Yuldo
Imchhido
Mojido (Amherst I.)
Chunggwan
Sajido
Tochho
Hydrographer Gr.p
Kasado
Yugodo (Nimrod I.)
Sochungkwan (Maury Is.)
Henksando (Ross I.)
Chilyangdo
Inpyongdo
Imjado
Kagado
Pepsongni
Chinnipdo
Muan
Moje
Anhai
Korin
Yongam
Chhonai
Imchhang
Kiongyang
Hamphiong
Pokso ngo
Samhe
Yongkwang
Chinwen
Okkwa
Chhongphyong
Hoksong
Kiure
Tonpok
Pokhion
Nakan
Sunchhen
Tuwon
Hongyong
Pulkai
Auckland I.
Herschel I.
Seen I.
Hoisam
Kojanghong
Kaksokdo (Tracy I.)
Pollado (Hooper I.)
Ilyongdo (Douglas I.)
Surakdo
Brook I.
Soeumdo
Isando
Udo (Montressor I.)
Kujukdo
Pinnacle I.
Ando (Castle I.)
Komundo
Tainang (Montravel)
Chhorando (Thornton I.)
Bate Gr.p
Keumgapdo
Namdokai
Mado
Taido
Goalen I.
Kwando (Mandarin I.)
Virginie I.
Montebello I.
Crichton Gr.p
Nanhow Gr.p
Washington Gulf
Long Cst
George I.
Port Gr.p
Port Hamilton
Beaufort Anchorage
Odaegpho
Pongdang
Piriapho
Cheju (Hisetsin)
Udo
Kochengwi
C. Dundas
Chongwi (Hisenhui)
Sekot
Mc Dougall Pt
Miongwol
Ranhe
Quelpart
Taiyan
Haipho
Barlow I.
Giffard I.
Keumno (Sarrow I.)
Bumet I.
Richardson I.
Tanseng
Anso
Kamam
Chinju
Chinhai
Chiaon
Chinephо
Konyang
Hatong
Kosong
Namchheng
Koje
Kojedo
Sinsendo
Chongnyang
Kwangsyang
Namhai
Namhaido
Hansando (Observatory I.)
Keumnyangdo
Adziro
Onura
Minatu
Tsushima
Kasa
Tsushima Sound
Idzuhara
Medakao
Sakao
HAGI
AKAMAGASEKI
FUKUOKA
KURUME
SAGA
NAGASAKI
KUMAMOTO
KAGOSHIMA

124° 136° *Longitude East from Greenwich* 128° 130°

XUM

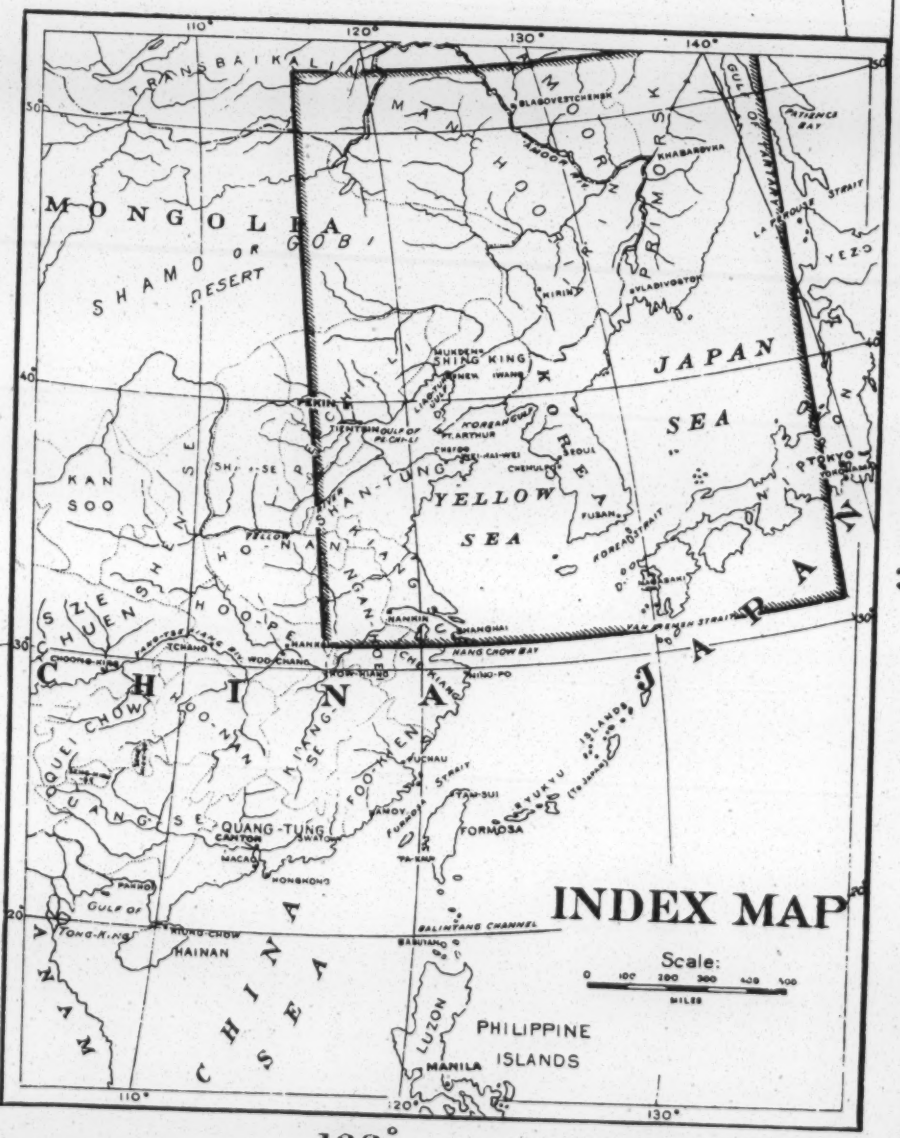


CHUNJU
TAIKOO
KWANGJU
Tanseng
Anso
Chinju
Kamam
Konyang
Hatong
Chongnyang
Namhai
Namhaido
Hansando
(Observatory I.)
Keumnyangdo
Tsushima
Tsushima Sound
Idzuhara
Medaka
Adziro
Owura
Minata
Koje
Kojedo
Herschel I.
Seen I.
Auckland I.
Pollado (Hooper I.)
Ilyongdo (Douglas I.)
Soeumdo
Isando
Kujukdo
Komundo
Tainang (Montravel)
Udo
Kochongwi
C. Dundas
Chongwi (Hisenhui)
Dougali Pt
(Barrow I)
KOREA STRAIT
CABLES TO VLADIVOSTOK
CABLES TO SHANGHAI
RIA
FF
Desert of Gobi.
MATSUE
TOTTORI
KYOT
HIMEJI
OKAYAMA
TAKAMATSU
WAKAYAMA
HIROSHIMA
HAGI
IMABARU
TOKUSHIMA
MATSUYAMA
KOCHI
AKAMAGASEKI
FUKUOKA
KURUME
SAGA
NAGASAKI
KUMAMOTO
KAGOSHIMA
H O N S H I U
S H I K O K U
K I U S H U
East from Greenwich 128° 130° 132° 134°

MATSUE
TOTTORI
HIKONE
NAGOYA
SHIZUOKA
KYOTO
FUSHIMI
YOKKAICHI
HIMEJI
UENO
TSU
OSAKA
NARA
KOBE
SAKAI
OKAYAMA
HAGI
HIROSHIMA
TAKAMATSU
WAKAYAMA
TOKUSHIMA
IMABARU
AKAMAGASEKI
MATSUYAMA
KOCHI
FUKUOKA
KURUME
SAGA
KUMAMOTO
KAGOSHIMA

H O N S H I K O K U S H I U

34°
132°
134°
136°



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

XUM

VOL. XV, No. 3 WASHINGTON MARCH, 1904

THE NATIONAL GEOGRAPHIC MAGAZINE

THE PHILIPPINE ISLANDS AND THEIR PEOPLE

BY HENRY GANNETT,

CHIEF GEOGRAPHER, U. S. GEOLOGICAL SURVEY, AND ASSISTANT DIRECTOR OF THE PHILIPPINE CENSUS

THE Philippine Islands are on the other side of the earth, 10,000 miles away. Lying near the equator, between 5° and 21° north latitude, the sun passes over them in April and May on its way north, and in July and August on the return journey, while in June the shadows are short and point to the south. It is always summer, always warm, and a minimum of clothing is constantly the fashion. The trade wind blows steadily from the northeast from November to May, and the monsoon from the southwest from June to October.

The islands are numbered by thousands, but no one knows how many there are, for the known number is constantly increasing as more accurate surveys of the coast are made. They range in size from Luzon, the largest and most populous, 41,000 square miles in area, and Mindanao nearly as large, down to the myriads of little rocks just above the water at high tide. The islands of Mindoro, Samar, Leyte, Bohol, Cebu, Negros, Panay, Paragua, and Masbate exceed 1,000 square miles in area each, and there are thirty-one which exceed 100 square miles each.

The shores of these islands are fringed with coral reefs which rise abruptly and irregularly from the depths of the sea, making navigation extremely difficult and dangerous. The charts prepared in Spanish times mainly by Spanish authorities are, as a rule, incorrect and often very misleading, so that it is necessary for shipmasters to use the utmost caution in approaching the coast or entering harbors. Our Coast Survey has been at work for the past three years, but although working as rapidly as possible, consistent with accuracy, it has as yet charted but few of the harbors. The magnitude of the work may be appreciated when it is understood that the coast of the Philippine Islands is much greater in extent than the entire coast of the main body of the United States, excluding Alaska, and that the coasts are much more intricate than our

own. At present no shipmaster thinks of entering a Philippine harbor, unless it be one with which he has familiarized himself, without carefully feeling his way by sounding.

Throughout northern and central Luzon runs a range of mountains parallel to the Pacific coast and closely bordering it, known as Sierra Madre. This range rises to heights of 4,000 to 5,000 feet, the highest portion being in the north. West of this is the broad valley of Cagayan River, one of the largest streams of the island, which flows northward, entering the sea at Aparri. This valley is the principal tobacco region of the Philippines, and is fairly well settled with about 200,000 people. For two-thirds of its length the river is navigable for small boats, which carry the products to Aparri.

West of this valley is a mountain system called Caraballos Occidentalis. This system consists of a main range with many subordinate spurs and branch ranges, on the east separating branches of the Cagayan River, and on the west running down to the coast, separating from one another the streams which flow directly into China Sea. Many peaks of this range exceed 6,000 feet in height, and a few are more than 7,000 feet. The spurs from this range come down closely to the coast, leaving only a narrow strip of cultivable land along the shore.

West of the Sierra Madre, in central Luzon, is a great depression or valley extending from Lingayan Gulf southward through Manila Bay and the Laguna de Bay to the highlands, separating Cavite province from Batangas. This valley has a length of nearly 150 miles, with an average breadth of at least 40 miles. Its floor is nearly level and throughout a large part of the area is raised but little above sea level. Much of it, especially near Manila Bay and Lingayan Gulf, consists of low alluvial lands but a few feet above tide, intersected by numerous bayous or estuaries. These regions are in fact delta plains formed by the Pampanga and Agno rivers. Manila Bay is a part of this depression, as is also the shallow Laguna de Bay, which nowhere has a depth exceeding 20 feet. Indeed, the Laguna de Bay is so shallow that at low water the steam launches which traverse it stir up the mud from its bottom almost constantly with their screws. This lake is drained by the River Pasig to Manila Bay.

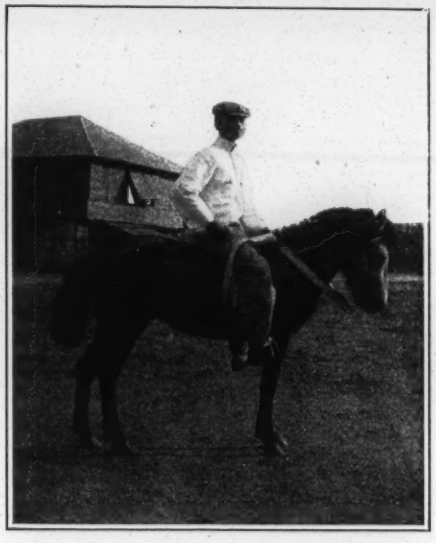


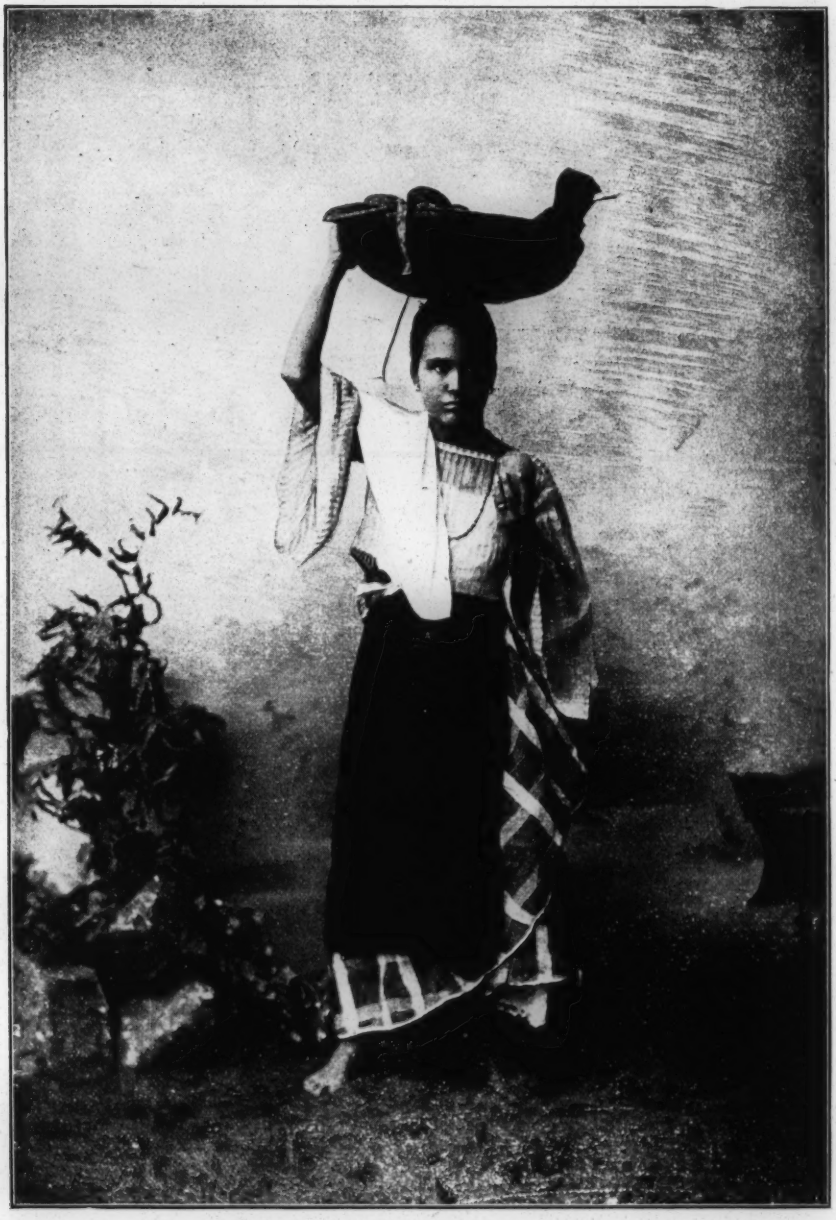
Photo by Gannett

An Ilocano Boy on One of the Small and Wiry Filipino Ponies

This great valley is the most densely settled part of the Philippines, containing nearly one-fourth of the civilized people of the islands.

West of this valley rises the Zambales Range, which, with the Mariveles peaks at the southern end, forms the backbone of the Zambalan Peninsula.

South of this great valley of central Luzon, in Batangas Province, is Lake Taal, which occupies the crater of an enormous extinct volcano, whose rim



TAGÁLOG GIRL SELLING MANGOES IN MANILA, LUZÓN.

Photo by Gannett

Boac, from the Walled Church

is strongly marked on all sides except on the southwest, where a small stream breaks through and drains the lake into China Sea. An active volcano rises as an island from the middle of the lake to the height of a thousand feet.

In the southern part of central Luzon are numerous volcanoes, most of them extinct. Southeastern Luzon has a very irregular outline and contains a number of short ranges and mountains of no great height. The greater elevations of this part of the island consist of active or extinct volcanoes. Of the former the most notable is the beautiful and symmetrical cone of Mayon, which rises from the shores of Albay Gulf to the height of 8,000 feet. This has been in eruption several times within the historic period and has done great damage to native towns and villages situated about its base. Another fine volcano, not now active, is Mount Isarog, which rises over 6,000 feet above the town of Nueva Caceras.

The island of Mindoro is little known except along the coast, as settlement has not penetrated the interior and few explorers have been far inland. It was crossed last spring at its widest part by Captain Offley, the governor of the province. The main topographic feature of the island is a range of mountains running from the northwest corner southeastward and then southward to the southern point, with broad spurs

Photo by Gannett

Igorrote Packers on the Road to Benguet

extending to the coast on either side. Its highest summit, Mount Halcon, has an altitude exceeding 8,000 feet.

The surface of Samar, the most eastern of the Visayan Islands, is exceedingly broken, but nowhere rises to a great elevation. Probably no summit of more than 2,000 feet in height is to be found on the island. The island of Leyte has a central range extending the length of the island from north to south, with a few summits exceeding 3,000 feet. Bohol, also of the Visayan group, is nowhere high, although most of the island is hilly. Cebu is characterized by a continuous range running from the northern to the southern end of the island, the greatest elevation, on the broadest part of the island, not exceeding 2,300 feet. The Island of Negros has a range running throughout its length, but without great elevation, excepting in the volcano Canlaon or Malaspina, which is said to have an altitude of more than 8,000 feet. Panay, the last of the large islands of the Visayan group, is dominated by a range of mountains extending from the northwest to the southwest point of the island, not far from the coast. This range, which furnishes the east boundary of the Province of Antique, has many summits exceeding 6,000 feet. From a point near the middle of this range there extends a subordinate range, which, running east and northeast, separates the provinces of Capiz and Iloilo.

TIRURAY DANCERS.

Photo by Gannett

Outskirts of Cotabato

The long, narrow island of Paragua has a mountain range extending its length from northeast to southwest, with peaks ranging from five to six thousand feet in altitude.

Of the great island of Mindanao most of the information we have comes from the explorations of the Jesuit fathers, who, in Spanish days, traversed it widely. It is known that along the Pacific coast of this island extends a range quite continuously from Bilan Point southward to Point San Agustin. West of this lies the broad valley of the Agusan River, peopled by a few Christians and many wild people. On the west side of this valley rises a succession of ranges trending nearly north and south, extending, with some breaks, down the west side to the Gulf of Davao, and separating it from the broad, fertile valley of the Cotabato River. This river heads north of the center of the island and flows, first, nearly south into a number of shallow lakes. These lakes outflow to the northwestward by a great river, still known as the Cotabato, which has built up a delta on the shores of Celebes Sea. Another range, trending northwest and southeast, separates this valley from the coast. In the interior of the island is a curious lake, Lanao. It has a length of twenty miles nearly north and south and an average breadth of ten or twelve miles. Its outlet is northwest to Iligan Bay. Its surface lies at an altitude above the sea of 2,200 feet, and the land rises abruptly from it on all sides to several hundred feet, that on the south being 800 feet above the surface of the water. Around this lake are grouped in villages 75,000 Moros, the largest and probably the densest settlement of these people in the archipelago. From this lake there runs, first westward and then southwestward, down the

peninsula of Zamboanga a range of mountains which terminates above the town of Zamboanga at the end of the peninsula.

These in brief are the leading topographic features of the larger islands. Summarizing, it may be said that the islands are almost everywhere mountainous and densely clothed in tropical vegetation. They are probably as beautiful islands as exist upon the globe, and

Photo by Gannett

An Igorrote

their possibilities under civilization and careful and intelligent cultivation are almost infinite.

THE CLIMATE

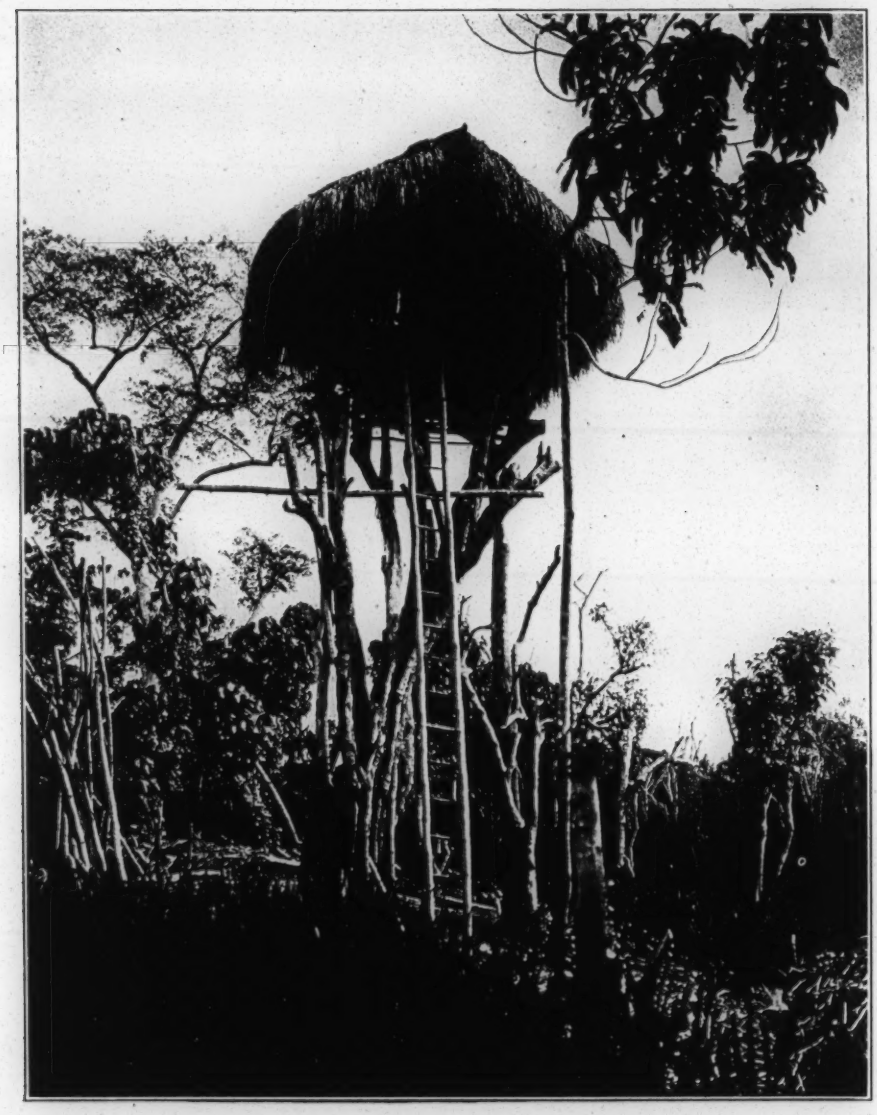
The temperature in the archipelago is at all times high, the mean annual temperature being throughout not far from 80° F., but, at least in the coast regions, is never excessive and is without any great variation during the year or during the day. It rises a few degrees only above the mean of the year in the spring and early summer months, and falls a few degrees lower than that average in the winter months. The annual succession of the temperature is pretty well shown by the thermometric record at Manila, where there is a range in the monthly mean temperatures of the year of only 7°—*i. e.*, from 77° in January to 84° in May. There is no extreme of heat. Temperatures of 100° are almost unknown, having occurred only twice in sixteen years, but for months the maximum temperature of the day may be above 90°. The lowest temperature on record is 60°, showing an extreme range in sixteen years of but 40°.

Now, to show what these figures mean, compare them with similar figures for the city of Washington. The highest temperature on record there is 104°, which is 4° above the highest in Manila. The lowest temperature ever suffered in Washington is —14°, not less than 74° lower than the lowest at Manila. The extreme range of temperature in Washington is 118° and in Manila 40°. The range of monthly mean temperatures in Washington is 46°—*i. e.*, the mean temperature of July is 46° higher than that of January, while in Manila the monthly mean range is only 7°.

There is no part of the year when clothing need be worn for protection against cold. White cotton suits are at all times in season, for the temperature is always above the perspiration point.

The diurnal range of temperature at points near the seacoast is slight, rarely exceeding 15°, while the average for the year is only 11°. The uniformity of temperature in the archipelago is, of course, due to its insular character, giving it a sea climate.

The relative humidity of the atmosphere is everywhere and at all times great, being commonly at least 75 per



TREE HOUSE OF THE GADDANES, NEAR ILAGAN, ISABELA, LUZÓN.

cent, while at certain seasons the air is practically saturated with moisture much of the time.

THE WINDS AND TYPHOONS

The wind system of the archipelago is simple. From November to June the trade wind blows continuously from easterly quarters. With the beginning of July the southwest monsoon begins and blows continuously until October, except as it may be interrupted by those storms known as typhoons, or, in the Tagalog language, "baguios." The monsoon is simply an annual land and sea breeze, produced by the change in the relative temperatures of the ocean and the land. In the winter, the sea being the warmer, the wind blows from the land, and thus here coincides with and reinforces the northeast trades. In the summer the land is hotter and the wind, setting toward it, forms the southwest monsoon.

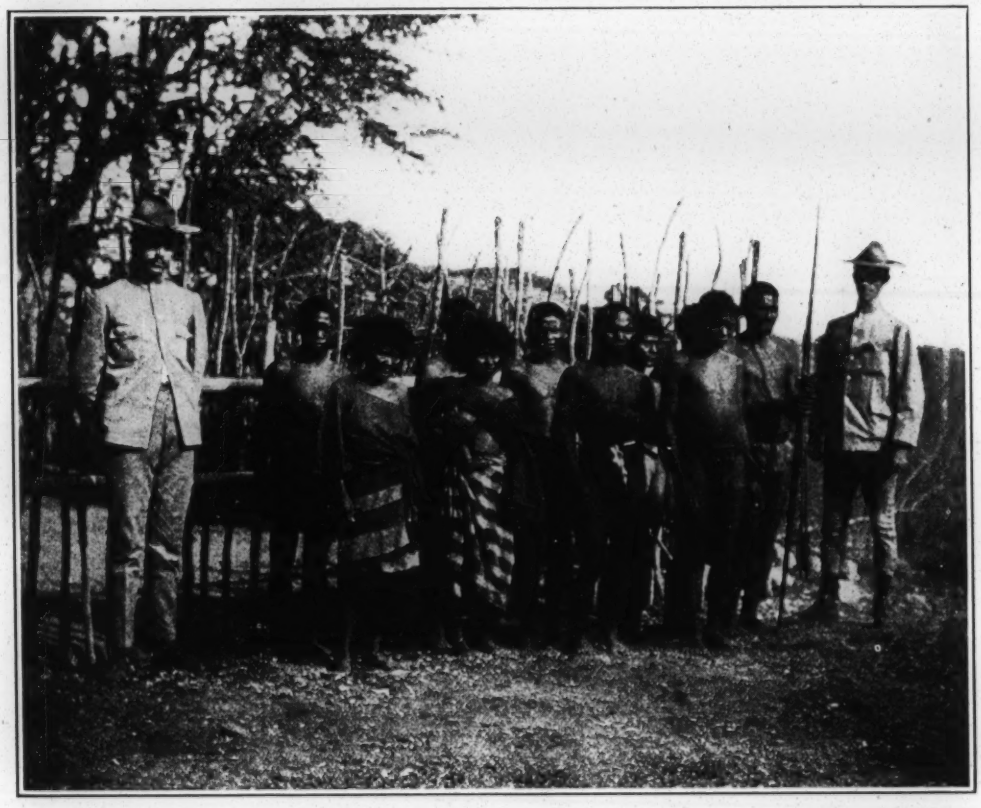


Photo by Gannett

A Group of Pigmy Negritos with Two Americans of Average Size

Typhoons are whirling storms which commonly originate in the Pacific, east of the Philippines, and take a westward course, turning north and finally northeast and passing off into the north Pacific. Most of them cross the Philip-

pines on their westward course and turn north in the China Sea.

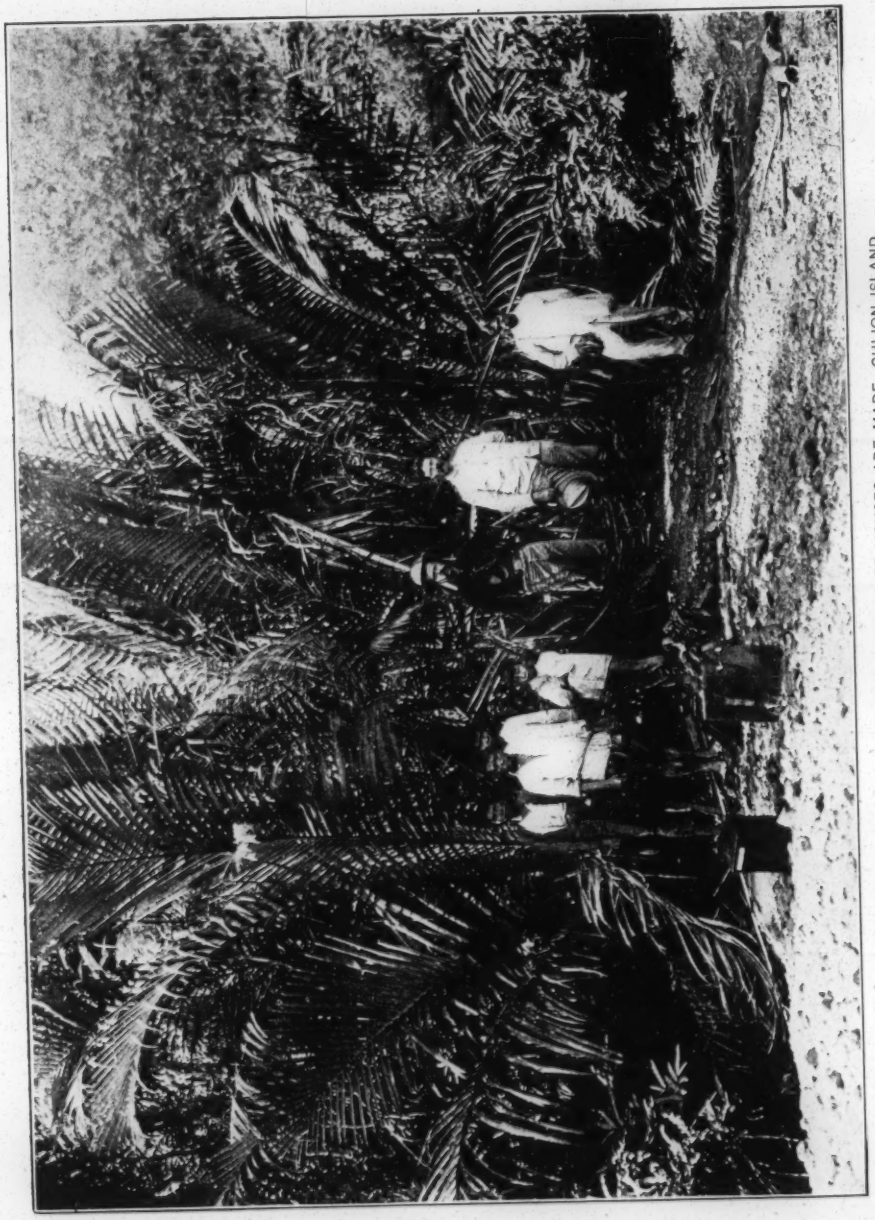
Their origin is probably in the region where the trade wind, blowing constantly from the eastward, meets the southwest monsoon. It may be by conflict between these two opposing air currents in this region that the whirl is set up. At first this whirl travels in the course of the trades, as they are the dominant wind, but as it goes westward the influence of the monsoon becomes relatively the stronger, and the typhoon yields to it and passes off in its direction to the northeast. Hence the monsoon season is the season of typhoons.

Typhoons resemble in course, character, and violence the so-called West India hurricanes. They are of frequent occurrence, often following one another closely, at intervals of but a few days, and many of them have been very violent and destructive.

The rainfall of the archipelago closely follows the winds. The general *modus operandi* of rain-making is very simple and scarcely needs repetition here. Air coming off the sea is always and everywhere practically saturated with moisture. On reaching the land, if the latter is colder than the sea, and therefore colder than the air currents, which have the temperature of the sea, it is chilled, and hence, unable to hold in solution so

Photo by Gannett

Nipa House Under Construction



NIPA PALM, FROM WHICH ROOFS AND SIDES OF HOUSES ARE MADE, CULION ISLAND.

much moisture, deposits a part of it as rain. This is especially the case if these air currents are forced up over mountain ranges, since in rising they are necessarily chilled.

The Philippine Islands are mountainous, and such air currents coming to them from any direction are forced upward to pass over the mountains into cooler regions. Hence there is a heavy precipitation on the windward side of the islands, while the leeward side, being under descending air currents already partly deprived of their moisture, receive little or no rain. The alternating winds of the Philippines, the trades and the monsoons, thus produce alternating wet and dry seasons.

On the east coasts of Luzon, Samar, and Mindanao, which face the Pacific, the winter and spring, when the trades prevail, is the rainy season. In most other parts of the archipelago it is the dry season. On the other hand, in the monsoon season, when the wind is from the southwest, the other, the westward-facing coasts, have a wet season, while the Pacific coasts are comparatively dry, or, at least, get much less rain. Thus at Manila there is practically no rain from November to June, while during the rest of the year the rainfall is heavy. There are places in southern Luzon and Samar where, owing to the fact that the islands are low, the air currents pass over them without losing much of their moisture, and hence carry it westward to be deposited elsewhere. Thus at localities in the Visayan Islands, west of these eastern coasts, the rainfall is abundant even in the winter season.

The total amount of rainfall ranges in different parts of the archipelago from 40 to more than 100 inches, the precipitation being greatest on the Pacific coast. At Manila it is about 60 inches, somewhat more than in the city of Washington, and of this four-fifths fall in the rainy season, between the first of July and the end of October. In these months rain falls nearly every day. The streets are flooded, the air is saturated with moisture, and things are covered with mould.

THE PEOPLE

All the larger islands are populated more or less fully, and mainly by little brown people of the Malay race. The only people not of Malay origin are the Chinese, Japanese, Americans, and Europeans, and the Negritos, the original inhabitants, who are found in small numbers in the mountains of the interior of Luzon and two or three other islands.

These brown people, both civilized and uncivilized, are separated into many tribes, and they are of all grades and degrees of civilization, ranging from cultivated gentlemen educated in the universities of Europe, to the wildest of head-hunters and the most timid of tree-dwellers. Among them, found almost entirely in the cities and mainly in Manila, are some three score thousand Chinese, and a small sprinkling of Japanese and East Indians. The Chinese carry on most of the business and do most of the hard manual labor of the cities. The ruling element of the whole consists of a small nucleus of some ten or twelve thousand Americans.

A classification of the natives by tribes is a rough index to the degree of civilization. The Tagalogs, occupying, in the main, central Luzon, are the most powerful and highly civilized; the Ilocanos in northwestern Luzon, the Bicols in the southern part of the same island, and the Visayans in the central islands of Samar, Leyte, Cebu, Bohol, and Panay, follow them closely in intelligence and civilization, as do also the smaller tribes of Pangasinan, Pampanga, Cagayan, and Zambales, in Luzon. These are the eight civilized tribes. Of these, the Visayans are far the most numerous, numbering over 3,000,000 and forming 45 per cent of all. Next

are the Tagalogs, who number 1,600,000, or 24 per cent, or nearly one-fourth. The Bicols form 8 per cent, the Ilocanos and Pangasinans 7 per cent each, the Pampangans 4 per cent, the Cagayanes 3 per cent, and the Zambalans only 1 per cent. These tribes live, in the main, on or near the coast or on navigable rivers. While not exactly a seafaring people, they spend much time upon the water, and a large proportion are fishermen. They travel mainly by boat, and the river transportation, by means of cascoes or large native cargo boats, is in their hands.

With the exception of the Moros, the wild tribes have been crowded back from the coast into the interior by the more civilized peoples, and are now found mainly in the mountains. The Moros occupy the coasts of southern Mindanao, and similarly have driven the wilder peoples into the interior of that great island. The Moros occupy also the whole of the Basilan, Jolo, Tapul, and Tawi-Tawi groups of islands.

Of the wild tribes the Igorrotes of the mountains of Luzon and the Moros of the southern islands are the largest and most powerful. Besides these, there are many smaller tribes, especially in Mindanao, who are even wilder. The lowest of all the people of the islands are the Negritos, who, though widely scattered over the archipelago, are found mainly in the mountains of northern Luzon, and number only 25,000. Of all these wild tribes, the Igorrotes are probably the most promising. Physically they are strong, sturdy mountaineers, and are bright, honest, and industrious. While many of them are still hunting heads in inter-village feuds in the remote region known as Bontoc, others are earning their livelihood as packers, miners, and farmers. All the baggage, furniture, and supplies of all kinds for the infantile mountain capital in Benguet province are packed on the backs of Igorrotes a distance of 25 miles and to an altitude of 5,000 feet. They number probably about 175,000.

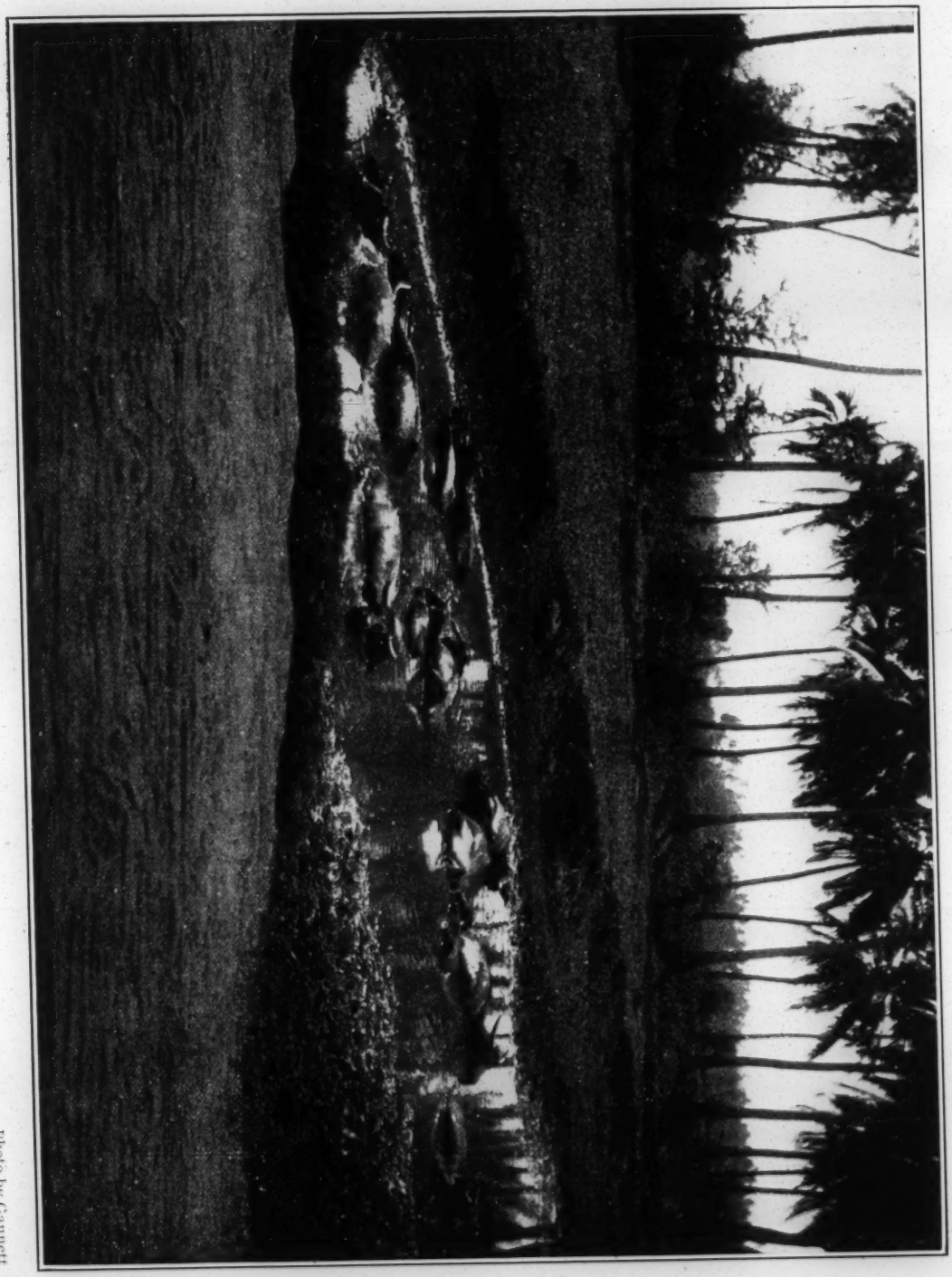
The Moros are a very different people. They number about 275,000 and inhabit southern Mindanao and the Basilan, Jolo, Tapul, and Tawi-Tawi Island groups southwest of Mindanao. They are nominally Mohammedans, though their religion is not such as to interfere with their chosen modes of life. They were the Malay pirates of whom we read, who were the scourge of the Philippine coasts, raiding the towns, killing the men, and carrying off the women and children. Fierce and fearless in war, the Spaniards made little headway against them, and when Spain turned over the islands to us she left a prospective lot of trouble for us in this people; but by wisdom, patience, and a little sharp fighting we have established our supremacy, and there is peace in Moro land.

Each tribe has its own language, and even different parts of the same tribe may speak dialects which differ greatly from one another. Thus the Visayans of Cebu cannot easily communicate with the Visayans of Leyte or Samar; hence there is great confusion of tongues. Only a small proportion of the Filipino people use the Spanish language; indeed, less than 10 per cent. There are thousands of villages in which no one can be found who speaks Spanish. The Spanish spoken by the common people is by no means pure Castilian, but is commonly known in the islands as Caribao Spanish. English is taught in all the schools, and the younger generation is making rapid progress in it. Everywhere the Filipino shows a desire to learn the language and a great pride in the progress made.

This people numbers 7,600,000, scattered over 115,000 square miles, in 14,000 cities and villages. There are very few rural inhabitants. The people are gregarious, probably 99 out of every 100 living in cities or villages,

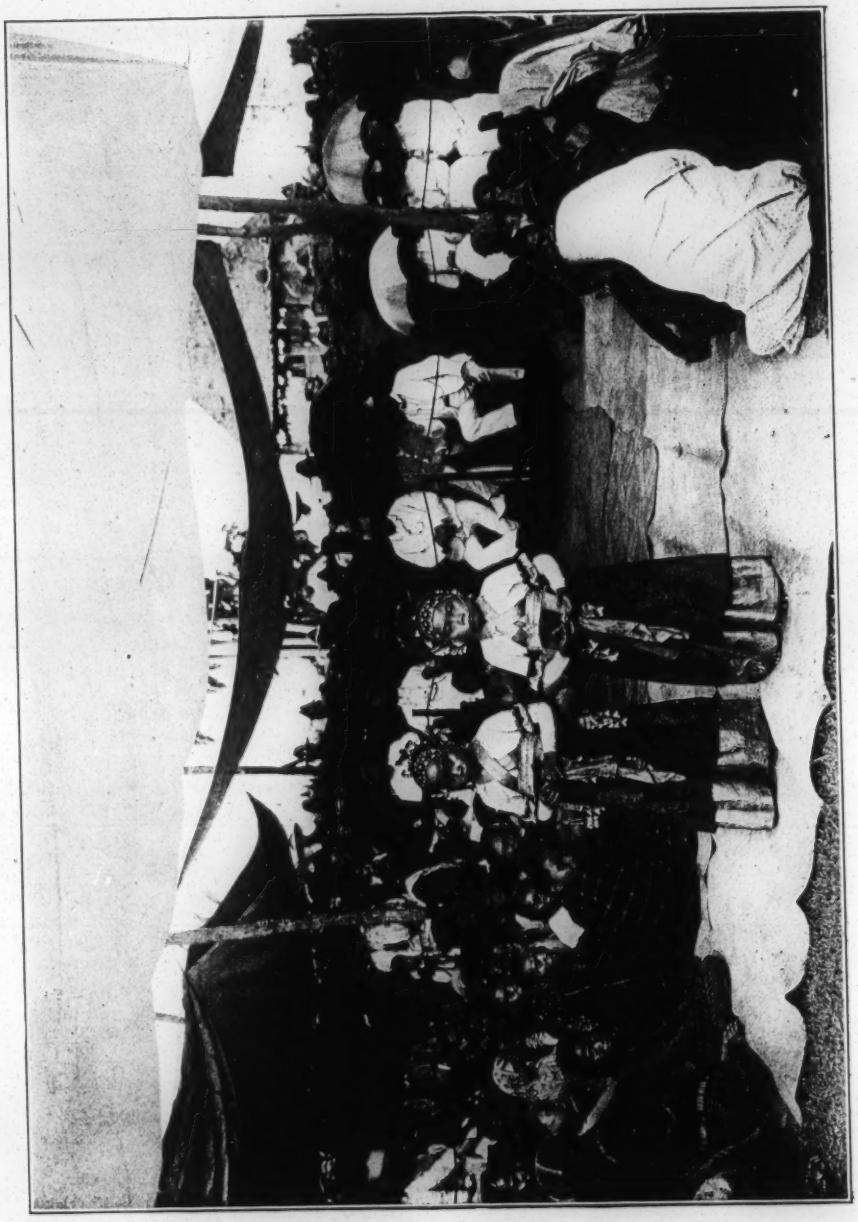
Caribao in Their Native Element

Photo by Gannett



Carabao in Their Native Element

Photo by Gammett



MORO DANCING GIRLS.

around which are scattered their plots of cultivated ground. Such a scattered distribution of the farming population as is seen in the United States is almost unknown in these islands.

GOVERNMENT

The islands are organized into forty civil provinces, the city of Manila, and the semi-military, semi-civil province of Mindanao—forty-two in all. The civil provinces are divided into nearly one thousand pueblos, which resemble in certain ways our New England towns. These are in turn subdivided into nearly fourteen thousand barrios or villages.

The chief executive officer is the civil governor, who is aided by four Americans, who serve as executive heads of departments, with the title of secretary. These five, with three Filipinos, form the civil commission, which is the legislative body. Within these four departments are numerous bureaus, which, with two exceptions, have Americans at their heads. The judiciary is mainly composed of Americans, but contains several able Filipino judges.

The officers of the provinces are governors, most of whom are Filipinos, and treasurers and supervisors, all of whom are Americans, and secretaries, all of whom are Filipinos. The governor, treasurer, and supervisor of each province form the governing board, which decides all matters of importance concerning the province. The chief officers of the pueblos are the presidentes, all of whom are Filipinos. The presidentes of the pueblos and the governors of provinces are elected by the qualified voters. The civil governor has the right to suspend or remove any officer, whether elected or appointed, and to fill the vacancy thus created.

Throughout, in the general government, provincial government, and pueblo government, the minor offices and the clerical positions are in the main filled by Filipinos, who make excellent clerks.

The city of Manila is governed by a commission appointed by the civil governor, much as the District of Columbia is governed.

INDUSTRIES

Farming is carried on extensively, but by primitive methods and with primitive tools. The plows and harrows are of wood and are drawn by carabao .

The agricultural products are very numerous, but most of them are of little importance. The chief products are tobacco, which is grown mainly in northern Luzon, and especially in the valley of Cagayan River, in the northeastern part of that island; abaca, or Philippine hemp, a species of banana palm, grown in southern Luzon, the Visayan Islands, and northern Mindanao, or wherever the rain is well distributed throughout the year; sugar, produced in various parts of the islands, but principally on Negros and Panay; rice, raised everywhere, but not in sufficient quantity to supply the people ; cocoanuts, which are found everywhere near the coast ; cacao and coffee. Besides these, bananas and mangoes are produced in abundance and are excellent; oranges and lemons are very few, and these few are wretched travesties of the California fruit. Indeed, it seems strange that, with a soil and climate that will produce almost everything, vegetables and fruits are so few and so poor. Fortunes await American market gardeners in the suburbs of Manila.

In most parts of the islands the lands are subdivided to an enormous extent, and the cultivated tracts are very small. A few thousand square feet, the area of an ordinary city house lot, are sufficient to provide the Tao and his family with all that they require—a few bananas, a little rice, and camotes or sweet potatoes. Their wants are limited and easily supplied. Furthermore, nearly everybody owns his place, or at least claims to own it. There are, however, many people holding land as squatters.

The Filipinos are great fishermen, and most of their flesh diet consists of fish. For their capture they use both traps and nets.

The manufactures of the islands are mainly carried on by hand in the homes of the people. Thus are made on hand looms by the women the beautiful and delicate fabrics known as Sinamay, Jusi, and Pina. Thus are made the beautiful hats which one day may become as fashionable and highly prized as the well-known Panama hat. Most of the lumber is sawn by hand with whipsaws.

In Manila, however, are some large factories, especially of cigars. There are also several lumber mills, a brewery, and numerous other establishments.

MEANS OF TRAVEL

The transportation of the islands is mainly by steamers on the sea, coastwise, and by cascoes along the numerous short rivers and bayous. The traffic down the Pasig from the Laguna de Bay, that great lake in the interior of Luzon, surrounded by populous towns, is very great and is carried on these cargo boats. These are homes as well as cargo-carriers, for the boatmen live on them with their families. On the boats of all kinds in and about Manila about 16,000 people live constantly.

Travel among the islands is mostly by sea. There are several lines of native boats which carry passengers and freight between Manila and the provinces, and the civil government possesses a number of boats known as coast-guard boats, which it uses for transportation of mail and passengers and its own freight. These coast-guard boats are very comfortable, although their accommodations are limited. The native boats are, however, extremely disagreeable for white people, and are to be avoided if possible.

Travel in the interior is much more difficult. The only railroad in the islands runs northward from Manila to Dagupan, a distance of 120 miles. It is a narrow-gauge road, owned by an English company, and is run at the dizzying rate of 15 miles an hour for express trains, and all its appointments are in proportion. The native travel on this road is enormous and the freight movement is large.

A few good roads were built in the islands under Spanish régime, the longest of which runs from Dagupan northward along the coast to the north end of Luzon. Most of the bridges on this road are temporary affairs, built of bamboo, which go out with each wet season, and many of them have not in recent years been replaced. The road also, which originally was well constructed of macadam, is now badly washed in places. This is probably a sample of the condition of the best roads in the islands. Aside from a few such roads, the ways consist mostly of trails impassable to wheeled vehicles.

For passenger travel the common animal is the Filipino pony, which is a little larger than a Shetland pony, is rather stockily built, but well shaped and hardy, tough, free, and fast. They are used both for riding and driving and make excellent saddle animals.

The draft animal is the carabao, or water buffalo, much like an ox, with slow, ponderous movements, dark dun, almost black in color, the hide lightly covered with hair, and generally equipped with large, heavy horns. This animal is used not only in the country in all farming operations, but largely in the city for draft purposes. The weakness of the animal is his constitutional inability to go long without a bath, and when left to himself he is almost amphibious, spending a large part of his time in water. A few hours' work in the sun without a bath is often fatal. The carabao is a Filipino animal in the sense that it recognizes only the Filipino as its master. It distinguishes a white man by his odor, and in many cases is excited by his presence. If at

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all viciously inclined, he is dangerous of approach, and instances have been known of his attacking and killing white men. He is to the Filipino what the mule is to the plantation negro. They understand one another and get on together excellently.

HOTELS AND HOUSES

The Philippine Islands are practically without hotels or any other public stopping place for travelers. True, there are hotels in Manila and in two or three provincial capitals, but elsewhere the traveler is obliged to throw himself upon the hospitality of the provincial officers, the presidente of a pueblo or the teniente of a barrio. If he hesitates to do this, he can quarter himself upon the constabulary, if there is a constabulary post, where he may find a cot upon which to spread his blankets, and probably will get a meal.

The houses of the Filipinos differ with their social condition and with the different tribes and in different parts of the islands, but they may be generally classified as those built of nipa, or its equivalent, and those of more durable material, such as wood, brick, or stone.

All the Filipino houses, wherever they are and whatever the material, are raised above the ground, generally to the height of a full story. The space beneath is commonly utilized as a stable for ponies or for a chicken house. The more durable houses are built of stone, brick, or wood, and are large and roomy, with plenty of window space. They are commonly entered from beneath by a broad, winding staircase, which lands the visitor in the middle of a large hall running the full length of the house. This hall is 20 feet or more in width and lighted by windows at the ends. One end of it is commonly the dining-room and the other the sitting-room, while on either side of it, and communicating with it by doors, are the bedrooms. The furniture is scanty and simple, consisting generally of a round table and easy, cane-seat chairs. The walls are double, the spaces between them forming galleries four or five feet in width, these galleries being entered through broad openings commonly curtained. In the outer wall are windows and blinds running independently of one another in grooves. The windows are very commonly glazed in small panes, three or four inches square, of shell instead of glass, which are sufficient to admit light, but nothing can be seen through them. At night everything is shut tight, windows and blinds, either from fear of night air or of spirits, which stalk abroad after sunset. The floors of these houses are generally made of the native hardwoods, are often very beautiful, and are a great source of pride to the possessor, who keeps them well oiled and waxed.

The roofs of this class of houses are of tiles, tin, or, among the poorer ones, of thatch, nipa, or cogan grass.

The houses classed as nipa are made of several different kinds of material, but in the main of bamboo and nipa palm. The frame, which is commonly very simple, is built of bamboo poles; the walls are made of a coarse mat woven of nipa, while the roof is thatched with the same material, nipa being a palm which is found abundantly in swampy places. Sometimes the sides, as well as the roof, are thatched with nipa instead of being made with this coarse mat. Where nipa can not be had, cogan, a coarse grass, is often used. The windows are mere openings, closed by shutters of nipa mat or of thatch. The floors are open work, made of strips of small bamboo tied down to the floor beams. Probably nine-tenths of the houses in the islands are of nipa, or some equivalent plant, built upon much the same plan as above. The erection of a nipa house is a very simple matter, requiring only a few days' labor and costing only one or two hundred dollars.

Some months ago a square half mile of the Tondo district of Manila, consisting almost entirely of nipa huts, was burned. A month later most of them were restored. The nipa house is entered, not by a stairway, but by a ladder from the outside. The rooms are commonly small and the people live very closely. The houses are, of course, only one story in height. Indeed, throughout the islands the buildings, as a rule, are low, most of the residences containing only one story, while business buildings rarely rise to more than three.

FOOD AND DRINK

In the Philippine Islands no white man drinks raw water—that is, unless he courts cholera or dysentery. Whenever possible he boils it or distills it, preferably the latter. In Manila is a large distilling plant, carried on by the government for the use of its civil employés. The natives are by no means as careful, and most of them drink the water as nature provides it and attempt to avert cholera by prayers and charms.

The native lives principally upon rice and fish, with a little fruit and vegetables. This low diet is by no means satisfactory to the Europeans and Americans in the islands, which do not produce at present the kinds of food which they demand; consequently the table of the American is supplied mostly with frozen meat, brought from Australia or the States, and with canned vegetables and fruits. Fresh milk, except from caribao, is practically unknown in the islands, there being only half a dozen milch cows in Manila, and the necessity is supplied by condensed milk and canned cream. The islands produce very few fruits which are palatable to Americans.

Since the Spanish times the prices of most commodities and the wages of most kinds of labor have doubled and trebled, not only in Manila, but in most parts of the Philippines, and rents, especially in Manila, have soared skyward. Houses which five years ago were rented for 25 pesos a month now cost two or three times as many dollars. A group of houses recently built of nipa, containing four rooms each, were rented long before their completion at the rate of $36 gold per month, the annual rent of the house amounting to more than twice the cost of the structure.

PHILIPPINE CURRENCY

Until recently the money in use in the islands was what is called Mex., the unit of which was the Mexican dollar or peso, which had varying values in gold, ranging from 40 to 50 cents. Heretofore, during American occupation, American money has been used to some extent, and the natives have thoroughly learned the distinction between the two and their relative values. Until the introduction of the Conant dollar, Mex. was the common medium of exchange, and a somewhat bulky and heavy one. A lady starting on a shopping expedition found it necessary to place in her carriage a bag full of pesos. Fifty or a hundred dollars in pesos, the equivalent of $20 or $40 gold, made about as heavy a load as she would care to carry from the carriage into the shop. Often upon returning from a shopping expedition she brought back less weight with her than she carried. Very little paper money was in use. One would occasionally receive bills on the Hongkong and Shanghai bank, or on a Filipino bank, but they were generally so filthy that the heavy silver was preferable. While the average Filipino is reputed to be somewhat light-fingered, few people even take the trouble to lock up their money, for it is commonly believed that Mex. is too nearly worthless to be stolen.

At the time of the introduction of the Conant dollar, American money was well known to the natives, not only in Manila, but throughout the islands generally. Even the newsboys and boot-

blacks knew the difference between Mex. and American money, and made change accordingly. An American dime bought two newspapers, while a Mexican ten-cent piece bought but one.

PRESENT PEACE IN THE ISLANDS

The question has been frequently asked, "Is the war in the Philippines over?" This would seem to indicate a great misapprehension concerning the situation in our Pacific islands. Many people seem to suppose that outside of a few garrisoned posts, it is dangerous for white people to travel about. Nothing could be farther from the truth. The fact is that in the portion of the islands inhabited by the civilized peoples—*i. e.*, three-fourths of their area at least—a white man is as safe in traveling or living as in Arizona or Colorado or Montana. He may go about with perfect freedom. Not only that, but the people are ready and anxious to show him hospitality. The Filipino from whom he asks a night's lodging feels highly honored and gives him of his best. The men salute him as he passes, and the children cry "Buenas dias," and are very proud if their salutation is returned. Among the wild people, the situation is much the same, although here it is better to send notice of one's coming in advance and to bear some sort of credentials. With these precautions, there is no more danger than in traveling on the reserve of a tribe of friendly Indians.

To illustrate the situation, the work of the provincial treasurers is instanced. Each of these (they are all Americans) is required by his business to visit every pueblo of his province, and such a trip may involve hundreds of miles of travel overland on horseback or by carromata. So far as known, no treasurer has ever been molested, although he often carries much money about him. The provincial supervisors, also Americans, are obliged to travel everywhere, as are many other civil officers of the government. At the present time, Americans are all over the islands on one errand or another, public or private. No one thinks of danger or provides against it beyond, perhaps, putting a revolver in his pocket.

There are ladrones still at large, but only a few, nearly all having been killed or are in prison serving long sentences, and the islands are now practically free from ladronism. Ladrones, or, as they were formerly called, tusilanes, are simply robbers. The Filipinos have always had them, and they were just as abundant and troublesome in the days of Spanish domination as they have been since the flag of Spain came down. They are often organized into gangs, and their common plan of operation is to shoot up a village at night, rob the houses, and perhaps hold some of the people for ransom. Their operations are always directed against their own people. They never interfere with Americans. The big, husky, efficient American soldier has taught even the worst of them that it won't pay. Two or three Americans have been killed in fights with ladrones, but not one, so far as known, has been intentionally interfered with.

Ladronism reached its maximum early last spring, when a dozen provinces, some of them near Manila, were infested with them. The native constabulary, with white officers, have been most efficient in chasing them down and breaking up their bands. The troops were not called out, as they were not needed. At present there are scarcely any ladrones left, only a few in Albay Province, in southern Luzon, where they have not been pursued with as much vigor as elsewhere, but recent advices indicate that the constabulary have since destroyed their bands.

The war has been over for more than two years. The people are pacified, quiet, and well disposed. They have

the utmost respect for Americans, a respect rapidly ripening into confidence and affection. This condition has come about in spite of famine, the loss of their farm animals through rinderpest and surra, and a severe epidemic of cholera.

WILL THE ISLANDS PAY?

Another question frequently asked is, "Will possession of the islands pay us?" In the first place, it is not a question which we should even ask ourselves. The question of profit in any form should not enter into the matter. When we took the islands from Spain we assumed a duty—that of reducing them to order and of maintaining them as good neighbors to the other peoples of the earth. We might have shirked the duty, we might have abandoned them to become a Venezuela or a Haiti, or we might have turned over the work of patrolling and protecting to some other nation, such as Germany, who was eager to exploit them, or to Great Britain, who might have been induced to accept the responsibility for them. If, however, we had been weak enough to have thus shirked our responsibility, I think that every one of us would have lost self-respect, as he certainly would have lost pride in his country. It is not, therefore, a question whether the islands will pay us or not, for no one should stop to consider whether it will pay him to do what is right.

But I think they will pay us in more ways than one, and in one way at least they are paying us already—that is, as just suggested, in self-respect and in national pride. We have unhesitatingly assumed our duties and are fulfilling them. We have reduced the people to order, and have put them under civil government. In our colonial administration we have accepted the best of the English methods—and they are far the best heretofore in use—and have improved upon them from the start in many ways; first of all, by giving this people as great a measure of self-government as they can carry on. Thus far our colonial administration, although our first attempt, and therefore somewhat experimental, has proven eminently successful, and it increases one's pride in his citizenship to note the manner in which we are carrying out this somewhat difficult work.

Even in the matter of dollars and cents it is probable that the islands will ultimately pay us; not that this is a matter of importance, for when a question of duty is involved, a great nation like ours can not afford to debate cost or profit, even if it be millions or hundreds of millions of dollars. When we see our people rapidly obtaining control of the commerce of the Pacific and find our government paper money, mere promises to pay, received as readily as gold in the Far East, in China, and in Japan, we can realize what our advent in the Philippines has done already and what it is leading to. Because of our possession of the Philippines we shall become the dominant power of the Pacific, both politically and commercially.

Japan and Korea, with the surrounding seas and the adjacent coastal region of China, is the subject of a large chart, 26 x 48 inches, just published by the U. S. Hydrographic Office. The chart gives the depths of water along the coasts and is a useful supplement to the land map published by the War Department and issued as a supplement to this number of the NATIONAL GEOGRAPHIC MAGAZINE. The chart may be purchased by sending forty cents to the U. S. Hydrographic Office, Washington, D. C.

RUSSIAN DEVELOPMENT OF MANCHURIA*

By Henry B. Miller, United States Consul to Niuchwang, Manchuria

ONE of the greatest achievements in city construction that the world has ever witnessed is now going on in the heart of Manchuria.

THE BUILDING OF HARBIN

In the building of such cities as Vladivostock, Dalny, and Port Arthur, Russia has demonstrated her power and purpose on the Pacific in line with the world's conception of her character; but in the construction of this wonderful city of Harbin she is displaying an altogether different type of activity from what we are prone to attribute to her.

It is in this city, more than in all the others combined, that Russia is asserting her intentions of becoming an active industrial force in the affairs of the Orient, and her people are already giving the place the title of the Moscow of Asia.

The city is located on the Sungari River, at the point where the Manchurian branch of the Siberian Railway crosses the stream and where the Chinese Eastern branch starts south to Dalny and Port Arthur. It is about 350 miles west of Vladivostock and 600 miles north of Port Arthur. Its location is the geographical center of Manchuria, and from present prospects it is to become the commercial center as well. The city is surrounded on all sides for hundreds of miles with a rich and productive agricultural country, producing corn, wheat, oats, barley, beans, millet, hemp, tobacco, vegetables, and some fruits. Minerals and timber and great areas of grazing lands also surround it.

At present the place consists of the old town, 3 miles from the central depot, Prestin or the river town, the present commercial center, and the administration town, in close proximity to the railway station. Before the railway engineers established this as their headquarters there was no native town in this vicinity, and the entire place is therefore a Russian product.

ADMINISTRATION

It is as distinctly a Russian city as though it were located in the heart of Russia, and none but Russians and Chinese are permitted to own land, construct buildings, or engage in any permanent enterprise. The city has been created by the Russian government, under the management of the Manchurian Railway Company. The land for many miles in each direction has been secured so as to make it impossible for any foreign influence to secure a profit or foothold close to the city, and foreigners are not recognized as having any rights whatever, but are permitted there by sufferance. The chief railway engineer is the administrator of the city, and up to the present time has had complete control of everything, but in the new scheme for the government of Manchuria some form of municipal organization will be permanently established.

In 1900 the place began to assume importance as a center of railway management, and in 1901 the population had grown to 12,000 Russians; in 1902, to 20,000; by May, 1903, to 44,000, and in October, 1903, a census showed a population of 60,000, exclusive of soldiers. Of these, 400 are Japanese

* The National Geographic Magazine is enabled to publish in full this excellent account of Russian progress in Manchuria up to the close of 1903, through the courtesy of Hon. O. P. Austin, chief of the Bureau of Statistics.

and 300 of all other nationalities, including Germans, Austrians, Greeks, and Turks. All the rest are Russians. There are no Americans.

The railway and administration employés, including families, constitute 11,000 of the population. The Chinese population is about 40,000, located in a special settlement. The ratio of women to men is as follows: Japanese, 120 per cent; Russians, 44 per cent; Chinese, 1.8 per cent; average of women, 14.3 per cent.

Harbin is the center of the entire railway administration of Manchuria, and, as the Russian commercial enterprises of the Far East are under the direction of the railway company, it will also be the center of Russian industrial and commercial development. It is the headquarters of the civil courts and the chief military post and the main center of control of all the vast army of railway guards. The administration city, therefore, consists of all of the public and private buildings and shops necessary for these various departments. Residences for the employés cover the largest area of this division of this marvelous city.

The following are some of the principal buildings of the administration city;

Building.	Cost of buildings.	
	Rubles.	*Dollars.*
Administration buildings, three stories in height, having a total floor space of 3,600 square sagene (176,400 square feet), to cost when finished	1,200,000	618,000
Railway shops	2,500,000	1,287,500
Hospitals	626,000	322,390
Commercial school and girls' school	500,000	257,500
Technical school	250,000	128,750
Eight schools for teaching Russians Chinese and for teaching Chinese Russian	96,000	49,440
Club and store for employés	370,000	190,550
Hotel	163,000	83,945
Russo-Chinese bank	200,000	103,000

The total administration expenditure on the city has been 30,000,000 rubles ($15,450,000).

TRANSPORTATION

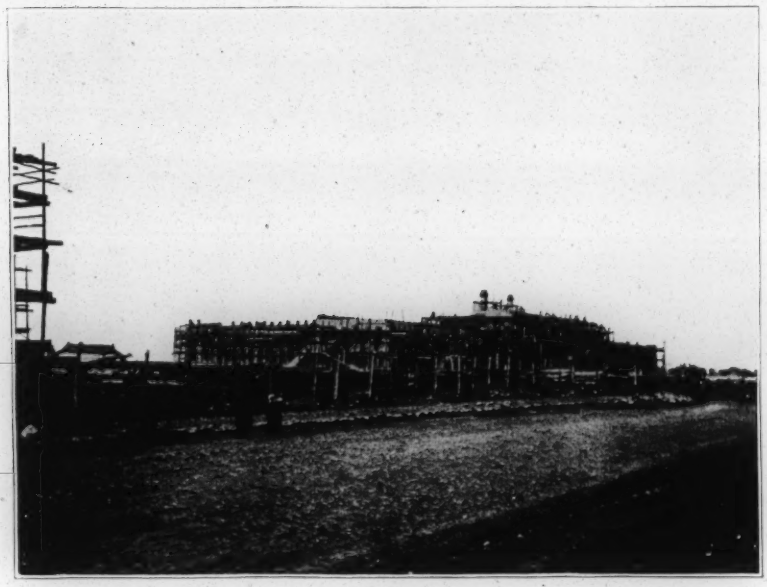
Steamers.—The Sungari River is navigable with light-draft steamers and native craft for nearly 200 miles above the city, up both branches of the river, and much traffic has already developed on these streams, especially in wheat.

From Harbin to the Amur River, during the navigating season, which begins in April and ends November 1, good-sized river steamers run daily. These steamers are well fitted with good, comfortable cabins for first, second, and third class passengers. They carry large cargoes of freight and usually tow barges loaded with freight. From Harbin to seagoing steamers at the mouth of the Amur cargo is carried now at 14 kopecks per pood, or about $4 gold per ton The Chinese Eastern Railroad Company and the Amur Steamship Company run good steamers on this line, and there are also several private boats covering the same route. All are loaded continually to their full capacity.

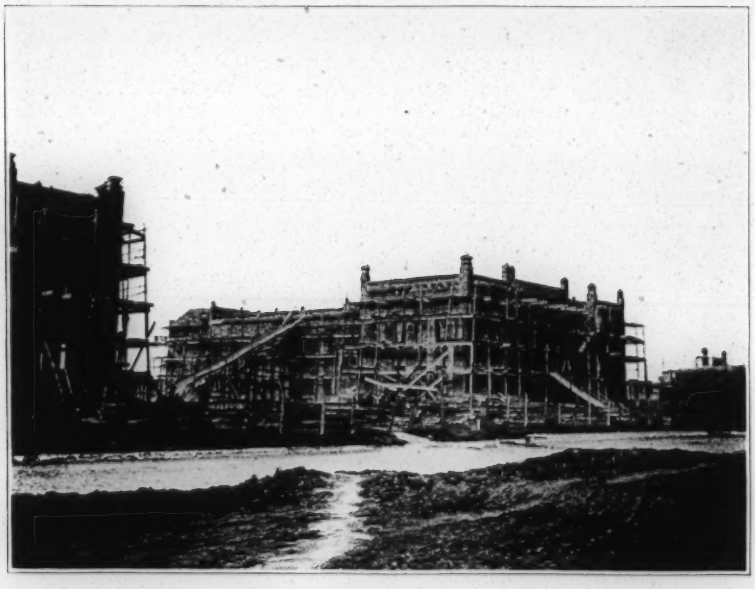
The steamers are mostly of the stern-wheel type, burning wood, such as are in operation on the western rivers in the United States, but as far as I could learn none are constructed of American-made machinery. The time usually required to go from Harbin to Kharborofsk, at the mouth of the Ussuri River, on the Amur, is five days. At this place these steamers connect with trains for Vladivostock.

Railroads.—Going west from Harbin the train takes you by a branch line from the crossing of the headwaters of the Amur to Stretensk, the head of navigation of this great river, while the main line goes to Lake Baikal (Siberia) and Russia. Going east, the railway reaches the sea at Vladivostock over a grade that does not exceed in any place 13 feet to 1,000. Going south, the Chinese Eastern Railway meets seagoing ships at Niuchwang, Dalny, and Port Arthur. The heaviest grade on this line is 9 feet

XUM



Administration Building, Harbin, October, 1903 (to cost 1,200,000 rubles, $618,000)



School of Commerce, Harbin, October, 1903. Woman's College on the Left

Russian Church, Harbin

View of Russo-Chinese Bank and Railroad Hotel in the Distance, Harbin, October, 1903

to 1,000, and that for only a short distance and at rare intervals.

In October, 1903, the regular number of trains dispatched for through traffic was thirty per day. Eighteen local trains were dispatched in addition. These local trains connected the two extremes of the town, viz., the old town and Prestin, with the administration part of the city.

There are also about 400 nesoshticks, or Russian carriages, for public use, and the average earnings of these vehicles is 5 rubles ($2.58) per day.

There is also an automobile line ready to start four machines to operate between the old town and the administration city; each vehicle will carry ten persons. These machines are now on the ground and will carry passengers for 20 kopecks (10 cents) each way. This line is in connection with an electric tramway that is to run a loop line through the river town, or Prestin, and a double loop, or figure 8, line throughout the administration town. This is a private corporation, with a capital of 250,000 rubles ($128,750). The same company is to provide an electric-light system for all three sections of the city.

DISPOSAL OF LAND

Harbin was started primarily as a military center and an administration town for the government and direction of railway affairs. Its growth into a splendid commercial and manufacturing city was not originally provided for by the promoters, and it has been somewhat of a surprise to them, but the fever of making it a great Russian commercial and manufacturing city has now taken possession of the railway management, and every system of promotion and protection that can be devised to increase its growth along these lines is being energetically encouraged.

The capital for most of the private enterprises is furnished by Siberian Jews. Chinese are furnishing money for the construction of some of the finest private buildings, such as hotels, store-rooms, etc. In the administration part of the city no private buildings of any kind are permitted.

The old town was the first to be laid out, and the land was sold to the public at the rate of 1 ruble (51.5 cents) per square sagene (49 square feet) the first year, but this rate is now increased to 3 rubles ($1.55) per square sagene. Following this, in 1901, the administration town was laid out and construction work began on buildings covering 20,000 square sagene (198,000 square feet). Later the river town Prestin was laid out, and in a very short time all of this was sold at a price of 17 rubles ($8.70) per square sagene, and most of it is now covered with substantial brick structures, there being 850 buildings, constructed at a cost of 8,000,000 rubles ($4,120,000). Recently two very large additions were laid out adjoining the administration town, and the land has been sold at prices ranging from 5 to 15 rubles ($2.57 to $7.73) per square sagene. This was purchased largely by speculators, and is being bought from them now at from 20 to 40 rubles ($10.30 to $20.60) per square sagene (49 square feet).

The administration has already received over 2,000,000 rubles ($1,030,000) for land sold to private parties. Many elegant residences and substantial structures are in course of construction in the additions adjacent to the administration town. A hotel and theater combined was built at a cost of 60,000 rubles ($30,900) and rented for 25,000 rubles ($12,875) per annum.

All of this land is secured on an eighty-six years' lease.

THE RUSSO-CHINESE BANK

This is the only banking institution in the place, and it has an elegant home in a structure of stone that has a steam-heating and electric-lighting plant of its

own. The building cost 200,000 rubles ($103,000). The business of the bank has increased 30 per cent during the past year, and its daily transactions, exclusive of railway and other government accounts, amount to 400,000 rubles ($206,000). The bank makes no loans on realty, but advances from one-third to one-half capital for current substantial business. It is inaugurating a very efficient and active system of credits to Chinese merchants purchasing Russian goods for sale in Manchuria. In some cases as much as 200,000 rubles ($103,000) have been given in letters of credt to Chinese for purchases in Russia.

These experiments are proving profitable and satisfactory. The largest success is reported in cotton goods. Many large orders are now being placed in this line and a substantial trade is being created. These goods are brought into Manchuria via Vladivostock free of duty. So far, sugar has been the only article purchased on which the Chinese have lost money.

This system of advancing credit to Chinese merchants for the purchase of Russian goods prevails now generally throughout Manchuria, and it is by this method and by imports free of duty and favored rates over the railway that Russian cotton goods are likely to capture the great trade of Manchuria that is now largely in the hands of American manufacturers.

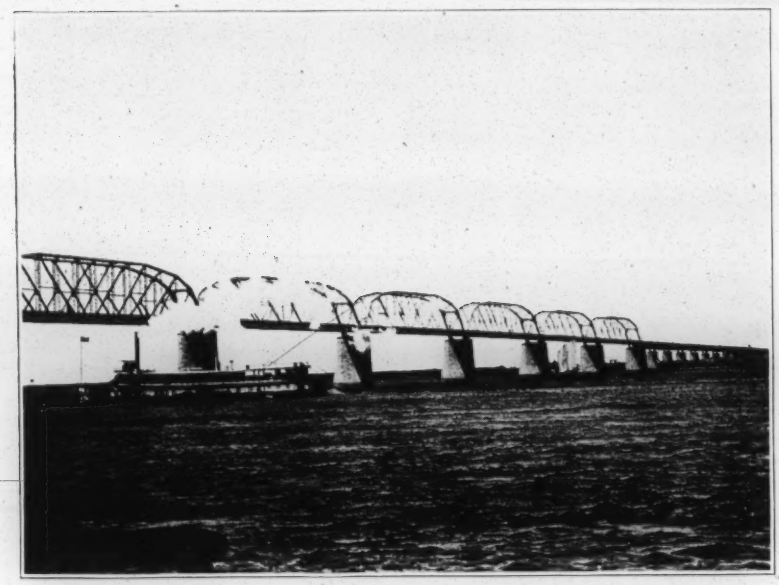
The Russo-Chinese Bank is also very generous to Chinese and Russian merchants in encouraging the purchase and shipping out of native products, but it is exclusive in its methods and will not encourage foreigners.

INDUSTRIES OF HARBIN

The leading industry of Harbin is the manufacture of flour. Eight mills are now in operation, all with modern European machinery with one exception, and that is a small one constructed with American machinery. Applications have been made and granted for the construction of two more large ones, and by the middle of 1904 10 mills will be in operation, producing 25,000 poods (902,800 pounds) of flour per day. They pay from 30 to 35 cents gold per bushel for their wheat delivered at the mills, and the wheat-producing area can be increased enormously. The present value of the flour mills in Harbin is 1,200,000 rubles ($618,000).

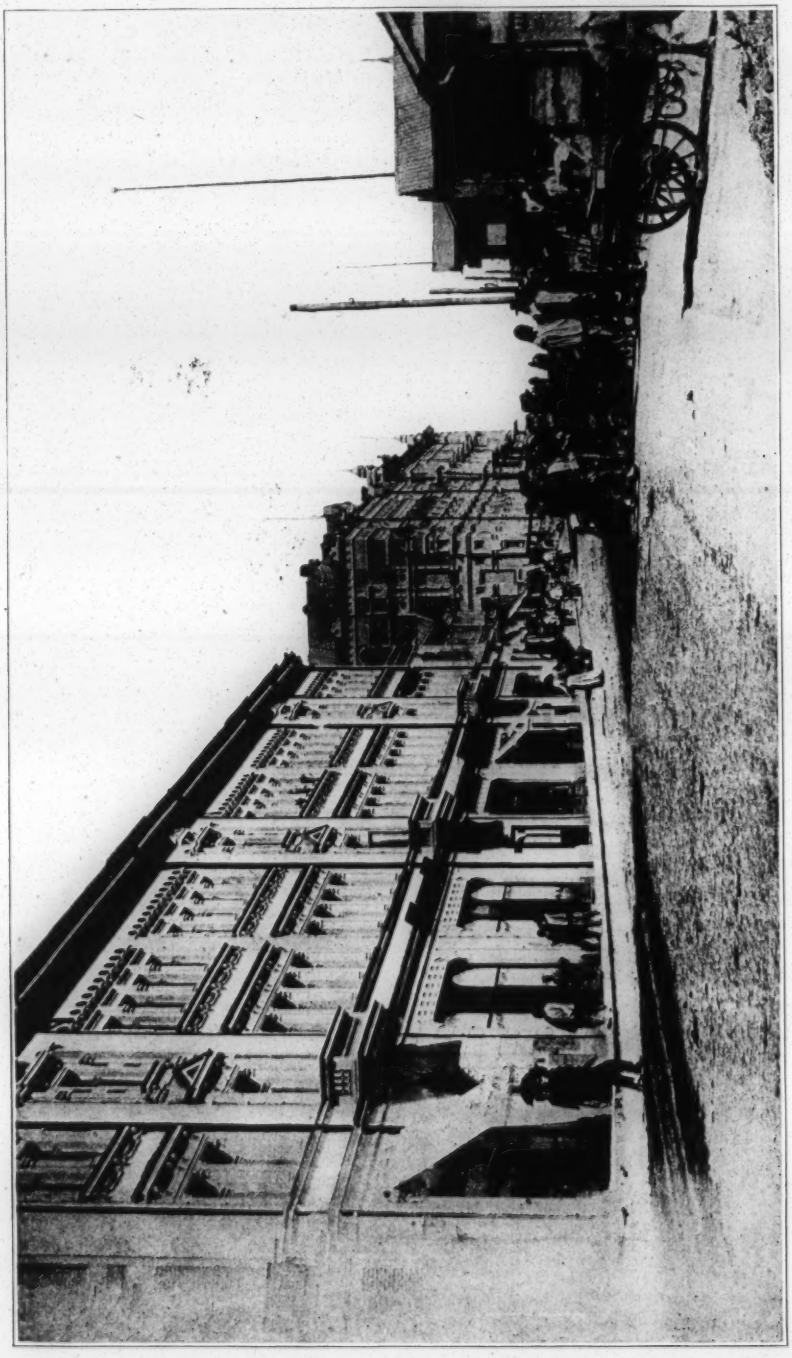
In the immediate vicinity of Harbin there are 200 brick-making plants, the cost of which was 500,000 rubles ($257,500). Two of these plants were constructed by the administration, at a cost of 200,000 rubles ($103,000). Most of the brick produced are used in the construction of the city. A very good grade of red brick is produced and sold for 6.50 rubles ($3.35) per 1,000. Most of the work is done by Chinese, who are paid 35 kopecks (18 cents) per day.

The next industry of importance is the production of the Russian liquor, vodka. There are eight manufactories, constructed at a cost of 200,000 rubles ($103,000). Several of these produce vodka from spirits of wine and sugar brought from Russia. Some produce only the spirits of wine from the local wheat, while others produce their spirits from local wheat and the vodka from their own manufacture of spirits. The consumption of vodka in Harbin alone is 1,000 vedro (2,707 gallons) per day, and the consumption throughout Manchuria is something enormous. In Russia the production is very heavily taxed, and it costs 10 rubles ($5.15) per vedro (2.707 gallons), while in Harbin it sells at from 1.50 to 2,50 rubles (77 cents to $1.28) per vedro. This is for 40 per cent alcohol. To make 1 vedro of 96 per cent of spirits of wine requires 82 pounds of wheat. The bottles for this vodka are at present brought from Japan, but at Imonia, in Manchuria, the Russians are now building a large bottle and glass factory.



River Sungari, Harbin—Russian Railway and Russian Steamer

Completed Section of Dalny, showing Residences of Railway Officials



Business Buildings in River Town, Harbin

Three breweries are now in course of construction in Harbin, to cost 200,000 rubles ($103,000). The Russians are great beer-drinkers and produce in Russia very good beer, but it is not of the quality that bears shipping long distances; hence very little Russian beer is to be seen on the Pacific coast or anywhere in Manchuria. At the present time American beer has the best of the Manchurian market, as 150,000 dozen bottles are imported through one firm at Port Arthur every year. A fine quality of barley is produced in the Sungari Valley, and these breweries will be able to buy it at about half the cost in the United States. There is little doubt but that the Russians will soon be producing all of the beer consumed in Manchuria. Our Pacific Coast hop men ought to be able to sell them their hops, however.

There are several companies engaged in this business, with plants costing altogether 250,000 rubles ($128,750). They cure hams, bacon, and all varieties of smoked meats and produce excellent articles. The hogs and cattle in this part of the country are grain-fed and make splendid meats, and the Russians are experts in preparing it for markets. So far these concerns have not been able to supply the Manchurian markets, but the cheap labor of the country, in combination with the cheap grain and the familiarity of the Chinese with hog-raising, makes a good foundation for the growth of the industry, and I can see no reason why it should not continue to grow sufficiently to produce all that may be required for the oriental markets.

There is a plant costing 25,000 rubles ($12,875) for the preparation of bean oil for use in painting.

Russians are especially fond of candies and sweets, and few people know how to produce a quality equal to the Russian product. There is a manufactory in this line in the old town costing 10,000 rubles ($5,150).

There is on the river a small sawmill that cost 15,000 rubles ($7,750) and two on the railway line between Harbin and Vladivostock that cost 150,000 rubles ($77,500).

AGRICULTURAL RICHES

There are many other industries in embryo, and, as the place is located in the center of an extremely rich agricultural country, has splendid transportation facilities, and is doing so well in the establishment of manufacturing, there is little doubt that it will increase at a very rapid rate as a manufacturing and commercial center.

The country is productive in wheat, cattle, sheep, hogs, millet, barley, oats, corn, beans, furs, hides, wool, bristles, bean oil, bean cake, hemp, tobacco, and timber, and has various undeveloped mineral resources; in fact, it has all the natural elements for the foundation of a great city.

RUSSIAN INVESTMENT IN MANCHURIA

The chief engineer who was in charge of the construction of the Russian railways in Manchuria informed me that Russia had expended in railways in Manchuria 270,000,000 rubles ($139,050,000). Add to this her investments in fortifications and in the constructions of the cities of Port Arthur, Dalny, Harbin, and other places, and it is a very moderate estimate to place her investments in permanent properties in Manchuria at a total of 500,000,000 rubles ($257,500,000).

AMERICAN VS. RUSSIAN TRADE IN MANCHURIA

What is the meaning to the United States of all this progress of Russia on the Pacific—the building of such cities as Harbin and the political domination of the country? It has been recently asserted by prominent people that it signified an enlargement of the market for our goods, and that of the present imports into Manchuria 75 per cent

were from the United States. General statements of this nature are easily made and easily believed, and without any careful examination into the details it has been the usual thing to assume that this development of Russia in Manchuria was certain to bring an increased market for the products of the United States. The subject has not yet been examined in all its phases as it should be, and as far as I know there is no one prepared by study and knowledge of all the details of the question to give a wise decision as to what the effect will be upon American trade from merely an economic point of view.

At the present time the principal imports from the United States into Manchuria stand in the following order: Cotton goods, kerosene, flour, lumber, canned and dried fruits and vegetables, beer, canned milk and butter, cigarettes, and sundries.

The exports from Manchuria to the United States are so small as to be a matter of no consequence.

Cotton Goods.—In cotton goods Russia is anxious for the trade, and is making every effort to secure the business and is becoming a serious competitor. Her advantages in this line are political, bank advances, and transportation. In a free contest, on purely economic lines, I think the United States can hold it. Russia favors the export of cotton goods into Persia by a heavy bounty, and just what she will do in order to secure this trade in Manchuria is not yet determined. At present she is providing a heavily-subsidized steamship line to bring these goods to Dalny and Vladivostock, where they enter free of duty, and no doubt they receive preferential railroad rates from these into the interior, or will if necessary.

These things, together with the financial help of the Russo-Chinese Bank, have not yet been sufficient to do more than start the trade well, and they may have to resort to a bounty in addition, unless they can shut out foreign goods by a tariff.

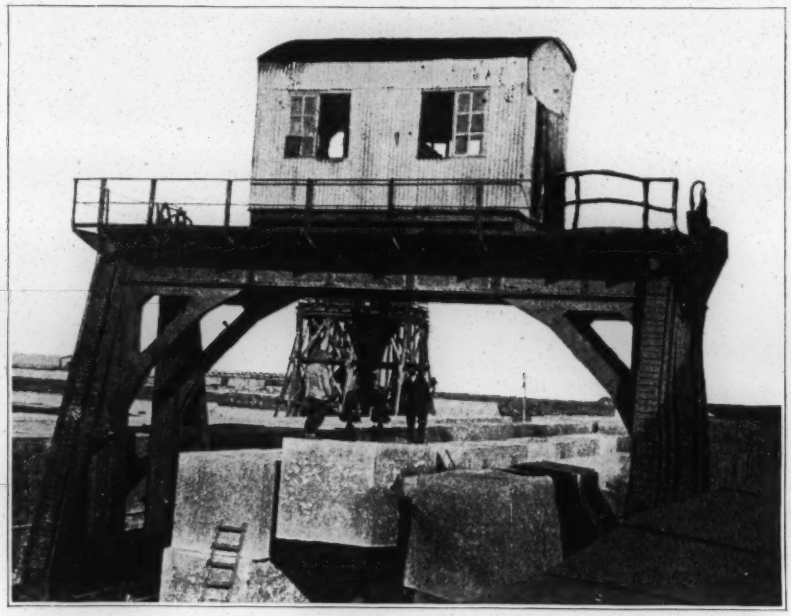
The production of cotton goods in Russia is growing very fast, and, as they have their designs on securing the trade of Manchuria in this line, it is only reasonable to suppose that they will eventually secure the trade they are prepared to handle in any country over which they have control.

The following is from the pen of a well-known American writer, who has investigated the subject carefully and is thoroughly acquainted with the conditions of production and marketing of Russian cotton goods:

"There is considerable excitement just now about the Russian possession of Manchuria. * * * If Russia adopts the same methods as to other parts of Asia that she is now using in Persia she will drive all other countries out of the market. She has now the monopoly of the cotton business of Persia, and she has gotten it by giving a bounty to her manufacturers. On every pound of Russian cotton goods sent to Persia the Moscow exporter gets an allowance of 3 cents from the government. One cent covers the freight and he has 2 cents a pound profit, besides the usual profit on the goods. The English or German manufacturer has to pay full freight, with no rebate, and he can not compete. This same system will be adopted in China. * * * After the trade has been captured the rebate may be discontinued and the price will rise."

Kerosene.—This is the next in importance of American imports into Manchuria. Russian oil is already making very good headway in a free and equal competition with American oil. By forcing its use in all the cities of Manchuria, by special aid from the Russo-Chinese banks that are now established in all the principal cities, by preferential rates on the railway, by providing tank cars and tank stations along the railway line and refusing these advantages to American

River Sungari, Harbin



Handling the 50-ton Blocks for Construction of Piers, Dalny

Laying the 50-ton Blocks for the Piers, Dalny

oil, it appears to me that Russian oil will have an absolute monopoly of the trade if full control of the country is secured to Russia.

Flour and Lumber.—Concerning these products I have recently issued detailed reports, the summary of which indicates that the Russians have it in their power not only to capture our trade in Manchuria, but to become our most severe competitors in all the oriental markets.

Green and Dried Fruits and Canned Fruits and Vegetables.—In all of these lines I find United States trade expanding considerably, and from every point of view within my observation I am induced to believe that the trade will have a large and permanent growth without danger of disastrous competition.

Beer.—Our trade in this article meets with the competition of Japanese and German beer, but it has been growing continually and is now greater than ever before. When the several breweries in course of construction at Harbin are in operation our trade in this line is most likely to suffer, and in time may give way entirely to the Russian product.

Condensed Milk and Butter.—In butter, the Siberian article is already capturing the Manchurian market, as it is being handled by the commercial department of the Chinese Eastern Railway. It may become a very aggressive competitor for the entire market of the Orient. In condensed milk we have a large and growing market, not only in Manchuria, but throughout the Orient. Should the Russian government elect to engage in this business also, it has the advantage of very cheap milk in Siberia and one of the finest countries in the world in the valley of the Liao, together with cheap labor to establish the industry on a basis that would make it a great rival for our condensed-milk trade with Japan and China.

Cigarettes.—Russian cigarettes are already securing much of the trade and are now in greater evidence throughout the country than any other.

Sundries.—At Harbin an agent of a New York firm informed me that American trade there was confined now to canned goods, including fruits, vegetables, milk, etc., beer, sole leather, carts, and a few lines of hardware.

People informed me that they had succeeded in substituting Russian engines and railway material for American, and that the railway regulations now provided for the purchase of everything Russian when possible, and that had cut off much American trade. They also said that they were succeeding in driving out American kerosene, flour, lumber, cotton goods, and other things, and that they hoped soon to provide Manchuria with all the things that now come from the United States.

United States trade in Manchuria with the Chinese amounted to several millions of dollars per year and was almost entirely imports. It had grown very fast, and would have had an extended and most substantial increase without the Russian development, for the country was being improved and extensively developed, with a continual immigration from other provinces in China, before the railway construction began.

RUSSIA'S COMMERCIAL ADVANTAGES

A study of conditions in Vladivostock, Harbin, and other districts is not particularly encouraging to the idea of extension of American trade in Manchuria in any line that Russia is prepared to supply. A knowledge of the earnest intention of the Russo-Chinese Bank to press the sale of Russian goods, a slight insight into the methods and determination of Russian railways to find a market for the products of Russia, and the interest displayed in developing resources along their lines for Russians and Chinese only, taken in connection with the natural wealth and resources of the country, do not favor the hope that under a Russian régime our trade in Manchuria will be as large as it was before.

If we take into further consideration the fact that the Russian government—by subsidies and bounties and through its banks and railways—is engaging in industrial and commercial pursuits as a government, and calculate the cheap food, cheap and reliable labor, and the vast mineral resources that she will have at her command on the Pacific, the question of the Manchurian market becomes comparatively insignificant, and we find ourselves face to face with the greater problem of the markets of all Asia.

Constructing a Dry Dock at Dalny

Like the builders of the ancient pyramids, the Russians in Manchuria have no lack of laborers. They pay the Chinese laborers 30 cents a day in winter and 20 cents a day in summer.

With millions of cheap and efficient Chinese laborers, with vast coal fields bordering on the Pacific, with mountains of iron and copper, vast forests, and enormous areas of agricultural land, producing now the cheapest food in the world, what is to prevent Russia, if her apparent plans are realized, from becoming a dominating factor in the commercial development of the Far East? One can not view the marvelous growth of a city like Harbin or observe the cities of Vladivostock, Dalny, and Port Arthur and the great Siberian railway without pondering seriously the meaning of it all in the future of Russia on the Pacific.

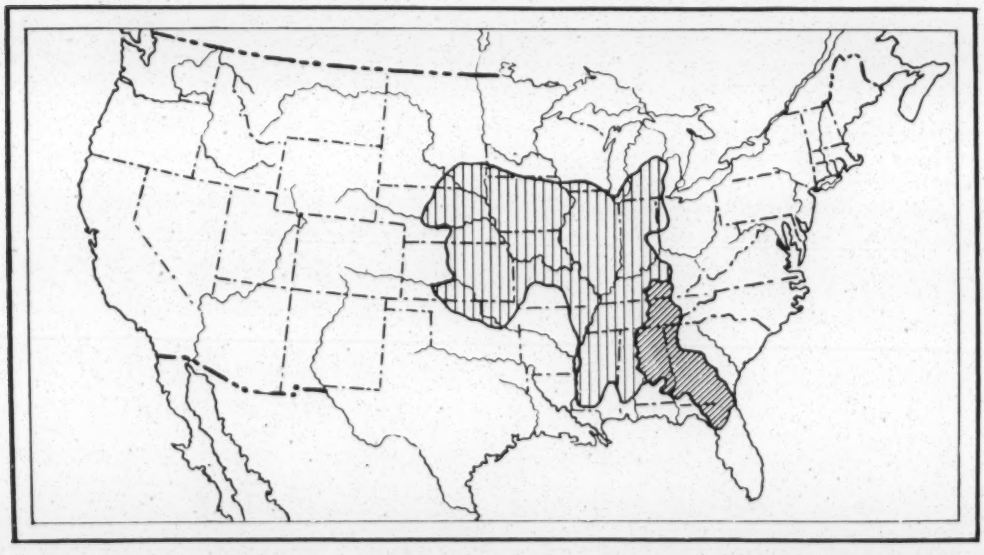
For the present, the prospect is that we shall at least meet with such unfavorable conditions in Manchuria as will endanger our present lines of trade. Whether or not this will be compensated for by an increase in other lines is not at this time clear.

There ought to be, and most likely will be, a large trade in agricultural implements. Of foreign countries, Germany is securing the most of this trade

now in Siberia and Manchuria, and there is no doubt whatever but that German trade is benefiting enormously by recent Russian domination of Manchuria. Next to the Germans come the Austrians, and next to them the Danish.

It is not in the least inspiring for an American to go through as busy and active a trade city as Harbin and find so few things from his country and not a single American citizen or progressive business house. The vision of 75 per cent of American imports into Manchuria dwindles to a most insignificant amount. When you see the great flour mills continually enlarging and increasing in number, when you see the numerous breweries being constructed, when you see Russian engines, and German, Austrian, and Danish machinery and products, and hear of the successful development of Russian lumber mills and the introduction of Russian cotton goods, and see in the Chinese stores Russian oil and cigarettes where before were American, and where you hunt with straining eyes to find something from the United States, one is not seriously impressed with the statement that, under Russian occupation, our imports into Manchuria are sure to increase.

Unfortunately, the only customs returns by which we can measure our trade year by year in Manchuria are from the port of Niuchwang, and even that is very imperfect, for the imports all come from Japan, Hongkong, and other Chinese ports, and the place of origin of the goods is not given in all cases. Goods are coming into Manchuria in great quantities through Port Arthur, Dalny, and Vladivostock continually, as well as through Niuchwang, but there is no means of securing a proper report of them.



Map showing Comparative Size of Manchuria and Korea and the United States

(See page 128)

MANCHURIA AND KOREA

THE magnificent war map of Manchuria and Korea, 36 by 42 inches, which is published as a Supplement to this number of the NATIONAL GEOGRAPHIC MAGAZINE, was prepared in the Military Information Division of the War Department from the latest explorations and surveys. Through the courtesy of the War Department, and in particular of Captain H. C. Hale, Acting Chief of the Diyision, the National Geographic Society is able to publish a large edition of the map. A key to the Supplement is published on the opposite page.

Manchuria corresponds in latitude to Manitoba, North Dakota, South Dakota, Minnesota, and Nebraska. Its area of 362,310 square miles is only 10,000 square miles less than the combined area of these great grain states. It is nearly three times greater than California, and is as big as Texas, Alabama, and Louisiana combined. Consul Miller in the preceding article describes the vast undeveloped resources of Manchuria. In the northern part of the province are thousands of square miles of rich wheat land entirely untouched. Manchuria has a possible wheat area as great as that of the United States.

Unlike China proper, Manchuria is not densely populated except in the south. The estimate of its population ranges from 10 to 20 millions. Korea is the same size as Kansas and slightly smaller than Minnesota, but, unlike Kansas and Minnesota, it is exceedingly mountainous. It has a population estimated at from 8,000,000 to 16,000,000, and its area is 80,000 square miles.

The mass of names given on the Supplement in Southern Manchuria, and especially in Korea, shows how densely populated are certain sections of these countries, and yet their density of population is not to be compared to that of Japan. Japan has a population of 45,000,000, increasing rapidly and living in a space no larger than the State of Montana; but only a part of her area of 150,000 square miles can be cultivated. The 45,000,000 Japanese are practically supported by what they can raise from an area one-third as large as the State of Illinois, less than 20,000 square miles.

The U. S. Consul at Vladivostok, writing just before the outbreak of the war, said:

"Owing to the low third-class rates, the traveling from western Europe to the Far East by the usual trains has become exceedingly cheap. The cost of transporting a third-class passenger from Hamburg to Shanghai by the Siberian and Manchurian railroads amounts to $51.50, inclusive of food, whereas the cost of a sea voyage is about $154.50. The German Government consequently has determined to transport German soldiers to the Far East and return by way of Siberia."

The following authorities may be read with profit at the present time:

"The Russian Advance." A. J. Beveridge. Harpers.

"The Yankees of the East." W. E. Curtis. Stone & Kimball.

"Handbook of Modern Japan." E. W. Clement. A. C. McClurg & Co.

"Korea." A. Hamilton. Scribner's.

"Korea and Her Neighbors." Mrs. I. L. Bishop. F. H. Revell Co.

"Manchuria: Its People, Resources, and Recent History." Hosie. London, 1901.

"China." J. H. Wilson. D. Appleton & Co.

"China—the Long-Lived Empire." E. R. Scidmore. Century Co.

"Village Life in China." A. H. Smith.

"Great Siberian Railway." M. M. Shoemaker. Putnam's.

"Guide to Great Siberian Railway." Ministry of Ways of Communication. St Petersburg.

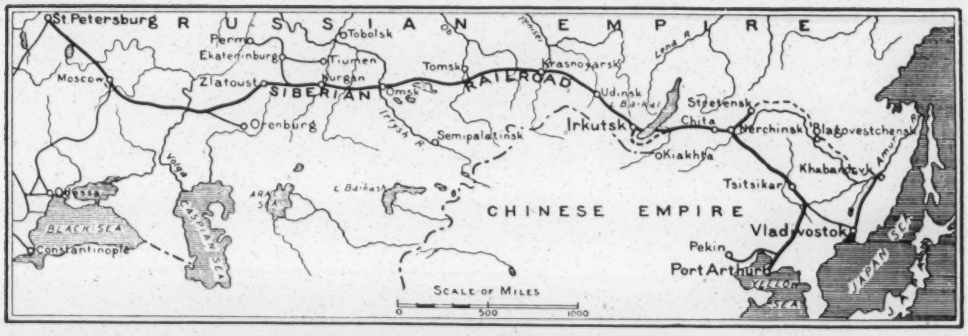
"An American Engineer in China." W. B. Parsons. McClure, Phillips & Co.

"The Awakening of the East." P. Leroy-Beaulieu. McClure, Phillips & Co.

"The Mastery of the Pacific." Archibald Colquhoun. Macmillan Co.

"Problems of the Far East." Lord Curzon. Longmans Green & Co.

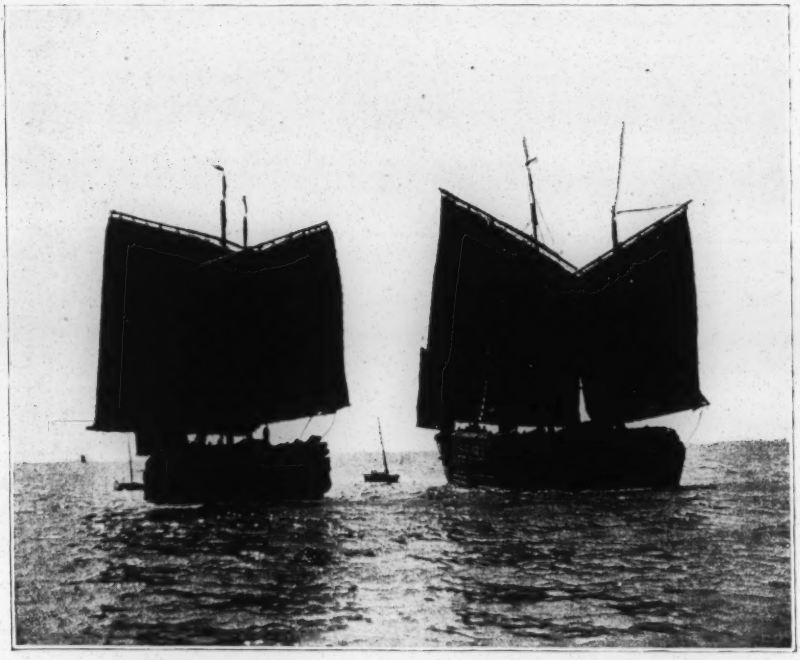
"American Diplomacy in the Orient." J.W. Foster. Houghton, Mifflin & Co.



Map of the Great Siberian Railway

Outline Map of Scene of Military Operations in the Far East

This map is designed to serve as a key to the large map which is published as a supplement. It shows the mountainous character of Korea and of the Yalu River country. Port Arthur is of the same latitude as Washington, D. C., and Kharbin a little more northerly than Portland, Maine. Scale, 250 miles to the inch.



Junks Bringing Timber to Niuchwang from the Yalu River

There are 25,000 of these junks trading at Niuchwang

Chinese Sawmill in Manchuria

LUMBERING IN MANCHURIA

THERE are many lumbering enterprises being established in Manchuria, Siberia, and Sakhalin, preparing to compete with the Pacific Coast lumber.

The most important is the Russian Timber and Mining Company of the Far East, with headquarters at Port Arthur. This company is organized by some of the most prominent men connected with the Russian government, and is reputed to have a capital of 20,000,000 rubles ($10,300,000). Its principal operations will be on the Yalu River, where it runs down timber from the forests of Korea as well as the large forests of Manchuria.

I have been informed by men who have seen these forests that they are very extensive and contain immense quantities of exceedingly fine timber. There is much fine timber in this market from that locality, and it has been the source of supply for both this and the Tientsin market for ages.

The ocean and river junks are built of this timber, hewn out in large pieces, often 3 feet and more in width. There are about 25,000 of these junks trading at this port (Niuchwang). The timber is mostly pine, very much like the white pine of the United States. This is the best quality of lumber that I have seen in China. The percentage of clear wood is not very large.

There is also considerable fir, usually much smaller than the pine, and also a timber similar to our tamarack. These are the three varieties from the Yalu district that I have seen. It is brought into this market and the other markets of China on junks. These junks, when coming to this market, usually sail in fleets as a means of protection against pirates, who often board them near the mouth of this river and rob them or levy tribute on them.

Most of this timber is driven or rafted down the Yalu in short lengths, and it is almost impossible to get long timbers from this district. The Chinese, in their native affairs, seldom use any but short timbers, and all the timber cut for Chinese consumption is cut into short lengths in the forests.

Up to the present the logs from this section have been cut into lumber by the whipsaw method, the natives using a thin and narrow saw blade with teeth set so as to cut both ways. Where the Russians have charge of the native sawmills they have introduced large and heavy saws, cutting only on the downward stroke—such saws as are used in our country for whipsawing lumber. With these the natives accomplish much more.

On the Yalu this old method is now to give way to another. Russia is to construct at the mouth of this river the third largest sawmill in the world. I have not been able to get the details or to ascertain whether the mill is to come from the United States or not, but it is certain that a great mill enterprise is already in process of construction. It is to be situated at one of the points of political controversy. It is at this place that the great naval battle between China and Japan was fought, the conclusion of which practically settled that war.

RUSSIAN LUMBER

In addition to this competition, which is already supplying large quantities of timber and lumber to Port Arthur, Dalny, and Niuchwang and to the Chinese Eastern Railway, the Russians are now shipping to all of these places by steamer from Vladivostock and vicinity and from the Island of Sakhalin large quantities of lumber.

This lumber, so far as I have seen it, is of a rather inferior quality compared with the Yalu lumber. It is harder, coarser grained, warps and twists badly,

and is difficult to work. Compared with the Yalu timber, it is about like the Norway pine compared with the white pine. It is, in fact, very much like the poor grade of Norway pine. What I have seen may not be the best quality, however. I am informed that the forests of Siberia and Sakhalin Island are quite extensive, and that the lumber production in that section is susceptible of great development.

This information I have from very reliable sources, but I can not write of it from personal observation. Mr Clarkson, formerly of Portland, Oregon, has a sawmill and sash and door factory at or near Vladivostock, and is reported to be having much success in this enterprise.

Another point of Russian competition in the lumber business is developing on the Sungari River, where the Chinese Eastern Railway crosses it, about 80 miles south of Harbin. Timber in considerable quantities is run down this river to this point and is being made into lumber by the Chinese method, several hundred men being engaged in the work. I am of the opinion that lumber from this source will never reach the sea in competition for the trade of China, but it will be a splendid source of supply for railway use and for the city of Harbin.

This timber, so far as I have been able to find out, is a fair grade of white pine, but the logs are all small. Whether this is due to the difficulties of driving on the stream or to the small growth in the forests, I have not been able to learn.

Harbin is today only three years old, but it is one of the greatest cities of Asia, and has the largest European population of any Asiatic city, containing 60,000 Russians, besides the soldiers. At Harbin there are two small sawmills cutting timber from the Sungari River, coming from below the city. On the railway line between Harbin and Vladivostock there are two large sawmills, the machinery for which cost, in place, 150,000 rubles ($77,250). These mills are engaged in cutting lumber at present for the railway and for the town of Harbin.

It is clear that Russia intends to provide for all the requirements of lumber in Manchuria and Siberia, with a possibility of entering the Chinese market.

The government has established a ruling that all railway and government supplies must be purchased from the Russian companies if possible. This is encouraging many industries in Manchuria, of which the lumber industry is one.

The recent purchase of considerable quantities of lumber from the United States was due to the haste in providing quarters for Russia's army in Manchuria.

The railway will require many ties, or sleepers, as these decay very fast, many having to be replaced before the railroad is completed. This is due to the fact that the railway is not yet ballasted, and the ties are laid deep in the earth and sand, not even the ends being exposed to the air. These ties are now coming in considerable quantities from Siberia and Japan, and I do not believe it possible for our country to compete for the trade.

The Russians are familiar with the lumber, wheat, and flour business, and as they have the natural advantages and the earnest support of their banks, railways, and government throughout Manchuria, I am convinced that their development of these industries is likely to soon close this market to our country in these products, and if they show intense energy and enterprise they will become severe competitors in the great markets of China for flour, especially, and possibly for lumber.

There is none of the lumber that I have yet seen equal to the Oregon pine, but much of it is good enough for the common markets of China and will be accepted for most purposes.

HENRY B. MILLER,
Niuchwang.

WEATHER PROVERBS

FROM earliest times to foretell the weather has had for all peoples of all degrees of culture an extreme fascination. The direction of the winds, the character of the clouds, the actions of insects and animals, etc., have served to foreshadow the coming weather. Every people and nearly every locality has its peculiar weather proverbs, many of which have been handed down for many generations. The modern science of meteorology has found that many of these ancient popular sayings are true enough, though many again are ridiculous. Prof. E. B. Garriott, of the U. S. Weather Bureau, has recently completed a careful selection of such weather proverbs as may be termed in the main correct for the United States, and the collection has been published by the Weather Bureau.* From this interesting collection the following sayings are taken :

Every wind has its weather.—*Bacon.*

When the wind is in the north,
The skillful fisher goes not forth ;
When the wind is in the east,
'Tis good for neither man nor beast ;
When the wind is in the south,
It blows the flies in the fish's mouth ;
When the wind is in the west,
There it is the very best.—*Isaak Walton.*

Clouds are the storm signals of the sky.

Rapid changes in the barometer indicate early and marked changes in the weather.

A sudden rise in the barometer is very nearly as dangerous as a sudden fall, because it shows the level is unsteady. In an ordinary gale the wind often blows hardest when the barometer is just beginning to rise, directly after having been very low.

When the glass falls low,
Prepare for a blow ;
When it rises high,
Let all your kites fly.—*Nautical.*

Men work better, eat more, and sleep sounder when the barometer is high.

Do business with men when the wind is from the westerly ; for then the barometer is high.

Sailors note the tightening of the cordage on ships as a sign of coming rain.

When rheumatic people complain of more than ordinary pains, it will probably rain.

When the perfume of flowers is unusually perceptible, rain may be expected.

Rainbow in morning, shepherds take warning;
Rainbow at night, shepherds delight.

Human hair (red) curls and kinks at the approach of a storm and restraightens after the storm.

Cats have the reputation of being weather-wise, an old notion that has given rise to a most extensive folklore. It is almost universally believed that good weather may be expected when the cat washes herself, but bad when she licks her coat against the grain, or washes her face over her ears, or sits with her tail to the fire.

All shepherds agree in saying that before a storm comes sheep become frisky, leap, and butt or "box" each other.

When the voices of blackbirds are unusually shrill, or when blackbirds sing much in the morning, rain will follow.

Robbins will perch on the topmost branches of trees and whistle when a storm is approaching.

A bee was never caught in a shower.

Expect stormy weather when ants travel in lines and fair weather when they scatter.

Ants are very busy, gnats bite, crickets are lively, spiders come out of their nests, and flies gather in houses just before rain.

When you see the ground covered with spider webs which are wet with dew and there is no dew on the ground, it is a sign of rain before night, for the spiders are putting up umbrellas ; but others say when the spiders put out their sunshades it will be a hot day.

Corn fodder dry and crisp indicates fair weather ; but damp and limp, rain. It is very sensitive to hygrometric changes.

Mushrooms and toadstools are numerous before rain.

The sun, moon, and stars indicate impending weather changes only so far as their appearance is affected by existing atmospheric conditions.

The moon and the weather
May change together ;
But change of the moon
Does not change the weather.
If we'd no moon at all,
And that may seem strange,
We still have the weather
That's subject to change.

When the moon rises red and appears large, with clouds, expect rain in twelve hours.

Excessive twinkling of stars indicates heavy dews, rain, or snow, or stormy weather in the near future.

A bad year comes in swimming.—*French.*

Frost year, good year. Snow year, good year.

A cow year, a sad year ; a bull year, a glad year.—*Dutch.*

Leap year was ne'er a good sheep year.—(*Scotland.*)

* Weather Folklore and Local Weather Signs. Bulletin No. 33. By E. B. Garriott, Professor of Meteorology. Prepared under the direction of Willis L. Moore, Chief U. S. Weather Bureau. Washington : Government Printing Office, 1903. $0.35.

The Russian Advance. By Albert J. Beveridge. With two maps. Pp. 486. 5½ by 8½ inches. New York: Harper Bros. 1903. $2.50 *net.*

Senator Beveridge made an extended journey through Manchuria and the Far East in 1901, preceded by a visit to Russia and Siberia. The present volume describes the impressions he derived on that journey, as well as the results of special studies he has made for a number of years of the Russian people and Russian history. His book is one of unusual power and foresight and is written in the characteristic eloquent and graphic style of the statesman author. He is a great admirer of Russian statesmanship, that "far-sighted and patient policy which has always looked ahead and considered the needs of the Russian people a century beyond the immediate moment."

The present war is the inevitable conflict of the Japanese conception of the Oriental "destiny" of Japan and the Russian conception of the Oriental "destiny" of Russia. But it is a conflict "not only of opposing interests, but of singularly acute race antipathies. Tolerant as the Russians are of other races, their hatred of the Japanese is pronounced and apparently instinctive."

Mr Beveridge tried to discover whether the Chinese in Manchuria objected to Russian control. The unanimous reply of every Chinaman, of high or low degree, seemed to be as follows: "I don't care who governs us, and I don't know a single Chinese merchant who does care. All we want is an opportunity to do business and make money." Though it was only a year after the Boxer outbreaks when Mr Beveridge was in Manchuria, he found peace and quiet everywhere. Hundreds of thousands of Chinese laborers were working on the railroad, on the new towns of Dalny, Harbin, etc., contented and happy. The secret of Russian success in bringing tranquillity so quickly is the Russian method. "It is the simple and traditional method of Russia to strike when you strike, and to spare not when you are striking. It is to wage war while war exists, and to employ the methods of peace only when war is over."

Russia waged no "milk-and-water" war in Manchuria in 1900; she waged a war of blood. But as soon as the fighting ended her soldiers stacked their guns and bayonets and started building cities and railroads. They employed thousands of Chinese laborers, paid them good wages, and kept them busy. Another cause of Russian success is the entire lack of race prejudice of the Russian. Superior to all the world, as he believes himself, he shows no offensive manner toward the other races with which he mingles; he fraternizes with the Chinaman, instead of rubbing in his superiority.

The volume deals almost entirely with the Russian advance in eastern Asia during the past few years. The closing chapters, however, discuss Russian capital and labor, the Russian workingman, priest, people, and church, Russian national ideals, the Russian common school and country hospital. There is a notable chapter on three Russians of world fame—Tolstoi, Witte, and Pobyedonostseff, procurator of the Holy Synod. Tolstoi is a noble by birth and a peasant by choice; Witte and Pobyedonostseff of the common people by birth, but of the autocracy by virtue of their very natures.

Witte has made Russia the largest owner and operator of railways in the world, the largest dealer in alcoholic liquors in the world, and soon will make her the greatest buyer and seller of tea. Should this process of giving the national government monopoly of the great industries continue, Russia will develop into a communistic state. It is said that the profits from the sale of vodka practically support the army and navy. Senator Beveridge states that the government control of the liquor business has

greatly reduced drunkenness and given the people a better and purer liquor.

"Russia is no state; Russia is a world," is the voice of the soul of Russia—"Russia that ever waits; Russia that is ever patient; Russia that ever advances; Russia that never hurries; Russia that looks upon other peoples as disorganized communities and dying races and considers herself the heir of all the ages."

The two maps given are unfortunate, both being very incorrect. The map showing Russian advances in Asia represents entire Russian expansion east of the Urals as having taken place since 1648, whereas the Russian had already reached Bering Sea at that time. The statements of advance on the east coast of the Caspian, and also south of the Amur, are also much displaced in time.

The U. S. Geological Survey has adopted a design for a Survey flag. The design is shown in the accompanying diagram, the triangle, cross-hammers, and stars being white on a blue background. The flag will be flown hereafter from all Survey camps at all times. The flag was designed by Mr Robert H. Chapman, of the Survey.

A map of the Republic of Panama, 23 by 42 inches, has been published by the Military Information Division of the War Department. The map is in colors and shows in detail all that is at present known of the territory of the Republic. A large and excellent map of the Panama Canal, with explanatory text, has been published by E. J. Beverstock, of Washington, D. C.

A Map Showing Commander Peary's recent discoveries in north Greenland and Grant Land has been published by the U. S. Hydrographic Office. It is in four colors, 30 by 34 inches, and is very beautifully engraved. The price of the map is 50 cents and it may be obtained from the Hydrographic Office.

"Diplomatic and Consular Service of the United States, with maps showing location and Classification of Consular Officers of each Grand Division of the World," is the title of an exceedingly useful report by the Bureau of Statistics of the Department of Commerce and Labor.

BOOKS RECEIVED

The Philippine Islands. 1493–1898. Volume IX. 1593–1597. By Emma H. Blair and James A. Robertson. Pp. 329. 6½ by 9½ inches. Cleveland: The Arthur H. Clark Company. 1904.

New Physical Geography. By Ralph S. Tarr. With many plates and diagrams. Pp. x + 457. 5½ by 7½ inches. New York: The Macmillan Company. 1903. $1.00.

Longmans' School Geography. By George G. Chisholm and C. H. Leete. Illustrated by plates and diagrams. Pp. xii + 513. 5½ by 7¼ inches. New York: Longmans, Green & Co. 1903.

Turkish Life in Town and Country. By Lucy M. J. Garnett. Illustrated. Pp. viii + 336. 5 by 7½ inches. New York: G. P. Putnam's Sons. 1904.

Madiaeval England. By Mary Bateson. Illustrated. Pp. xxvii + 448. 5½ by 8 inches. New York: G. P. Putnam's Sons. 1904.

La Japon d'aujourd'hui. By G. Wenlersse. Pp. 359. 4½ by 7½ inches. Paris: Librairie Armand Colin. 1904.

PLACE NAMES IN EASTERN ASIA

THE breaking out of the war between Russia and Japan is bringing trouble to every household in the land, for the place names of Korea and Manchuria are spelled differently by different newspapers and on different maps. These names in the native tongue are written in characters different from those which we employ, and have been transliterated into roman characters by different persons in different ways; hence the widely varying forms which are seen. It is not generally known that a system of transliteration of such names has been adopted by most European nations, by Canada, and by this country—a system which is simple, easy of application, and which, if generally followed, reduces these variations of spelling to a minimum. This plan is published in the report of the U. S. Board on Geographic Names, and is here republished for ready reference.

RULES FOR TRANSLITERATION

a has the sound of *a* in father.
e has the sound of *e* in men.
i has the sound of *i* in ravine or of *ee* in beet.
o has the sound of *o* in mote.
u has the sound of *oo* in boot.
ai has the sound of *i* in ice.
au has the sound of *ow* in how.
ao is slightly different from above.
ei has the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely distinguishable from *ey* in the English they.

c is always soft and has nearly the sound of *s*. Hard *c* is given by *k*.

ch is always soft, as in church.

f as in English; *ph* should not be used for this sound.

g is always hard. (Soft *g* is given by *j*.)

h is always pronounced when inserted.

j as in English; *dj* should never be put in for this sound.

k as in English; it should always be used for hard *c*.

kh has the sound of the oriental guttural.

gh is another guttural, as in the Turkish.

ng has two slightly different sounds, as in finger, singer.

q should never be employed; *qu* is given by *kw*.

y is always a consonant, as in yard, and should not be used for the vowel *i*.

The U. S. Board on Geographic Names has passed upon only a few of these names of eastern Asia. Among them are Amur, Chemulpo, Korea, Seoul, Manchuria, and Tokyo. Of the names already in common use in connection with the seat of war, the following forms should be employed in accordance with the rules above quoted: Mukden, Yalu, Sungari, Chefu, and Fusan. H. G.

NATIONAL GEOGRAPHIC SOCIETY

8 p. m., Friday, February 26.—National Rifles Armory. "Travels in Arabia and Along the Persian Gulf." Mr David G. Fairchild. Illustrated.

4.40 p. m., Saturday, February 27.—Columbian University. "The Argentine Republic." Mr Charles M. Pepper.

8 p. m., Friday, March 4.—Cosmos Club. "The Work of the National Bureau of Standards." Dr G. M. Stratton.

4.40 p. m., Saturday, March 5.—Columbian University. "San Domingo." Mr Percy King. Illustrated.

8 p. m., Friday, March 11.—National Rifles Armory. "Little Known Peoples of Mexico." Dr Carl Lumholtz. Illustrated.

4.40 p. m., Saturday, March 12.—Columbian University. "Brazil."

8 p. m., Friday, March 18.—Hubbard Memorial Hall. "The Work of the U. S. Biological Survey." Dr C. Hart Merriam.

4.40 p. m., Saturday, March 19.—Columbian University. "Peru." Hon. Manuel Alvarez Calderon, E. E. and M. P. from Peru. Illustrated.

8 p. m., Friday, March 25.—National Rifles Armory. "The Louisiana Purchase Exposition." President D. R. Francis. Illustrated.

4.40 p. m., Saturday, March 26.—Columbian University. "Chile."

8 p. m., Friday, April 1.—Hubbard Memorial Hall. "A Journey Across Mindanao." Alonzo H. Stewart. Illustrated.

4.40 p. m., Saturday, April 2.—Columbian University. "Colombia and Venezuela." Hon. F. B. Loomis, Assistant Secretary of State.

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